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To carry out this study, personal interviews were conducted with licensing personnel in the geographically diverse states of New York, California, Florida, Illinois, and Texas. The nonprofessional occupations (those requiring not more than two years of post-high school training) examined for licensing requirements in at least one of the five states were practical nurses, plumbers, ophthalmic dispensers, dental hygienists, psychiatric technicians, clinical laboratory personnel, electricians, heating and air conditioning workers, and aircraft mechanics. Some of the factors believed to contribute toward the inhibitory effects of licensing on both job entry and interstate mobility were (1) poor communication between applicants and licensing boards, (2) misleading application forms, (3) subjective and inconsistent training and/or experience requirements, (4) cost of licensure, (5) variable examining procedures, and (6) inadequate reciprocity agreements between states and areas within a given state. Further research directions were recommended. Copies of form letters and the interview guide are in the appendix. (ET)

C.1

FINAL REPORT

A PILOT STUDY TO DETERMINE THE FEASIBILITY OF INVESTIGATING NATIONALLY THE IMPACT OF LICENSING PRACTICES ON THE AVAILABILITY AND MOBILITY OF NON-PROFESSIONAL MANPOWER IN OCCUPATIONS WHERE SKILL SHORTAGES EXIST

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Educational Testing Service
Princeton, New Jersey
May, 1968

FINAL REPORT

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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A PILOT STUDY TO DETERMINE THE FEASIBILITY OF INVESTIGATING NATIONALLY THE IMPACT OF LICENSING PRACTICES ON THE AVAILABILITY AND MOBILITY OF NON-PROFESSIONAL MANPOWER IN OCCUPATIONS WHERE SKILL SHORTAGES EXIST.

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U.S. DEPARTMENT OF LABOR

Manpower Administration
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ABSTRACT

This document is the final report for a study which was conducted to explore the feasibility of obtaining information bearing on the impact of licensing on job entry and interstate mobility in certain non-professional occupations. The occupations selected for study had been identified by the U. S. Department of Labor as those in which there were shortages of skilled manpower.

Licensing procedures in the skill shortage occupations were studied in five geographically diverse states, in order to secure information about the structure, process, and effects of occupational licensing in those states. The five states were: California, Florida, Illinois, New York, and Texas. Initial mail and telephone contacts in each of these states were followed up by personal visits to licensing agencies.

Conclusions for the study are that, although considerable data could be obtained through mail and telephone contact, it was not the type of information which would assist greatly in making judgements about the impact of licensing on entry and mobility. It is necessary to actually visit licensing agencies and to talk with licensing personnel in order to obtain the qualitative data upon which such judgements depend.

The investigators present their analysis of the effects of licensing and their recommendations for future research. They conclude that licensing does appear to inhibit both job entry and interstate mobility, and discuss specific aspects of the licensing process which appear to contribute significantly to this inhibition. Finally, they recommend continuing in-depth research in a selected number of states and a sample of municipalities. Procedures are offered for the conduct of the in-depth research.

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I THE PROBLEM

What impact, if any, does the licensing of non-professional occupations have on the supply and availability of manpower? Do licensing requirements pose a serious entry barrier to occupations in which there are shortages of skilled personnel? Are examining procedures used by licensing agencies sound and equitable? If not, what can be done to improve them?

Before any of these questions can be answered, dependable information is needed about the extent to which various occupations are licensed, the prerequisites for licensing, the nature of the examining processes, the pass-fail rates, and the policies relating to reciprocity.

A review of the literature revealed only one comprehensive study of occupational licensing. This study had been conducted in 1952 by the Council of State Governments,(4) primarily by means of a mail questionnaire. It reported that certain types of information, such as the occupations covered and the date of the licensing acts could be obtained from most states. Similarly, the CSG was able to obtain data about licensing agencies and the composition of licensing boards from 80% of the states. However, information about the number of new applicants, new licenses issued, and the number of licensees practicing in each state drew only a 45% response.

It was evident from the report of the CSG Study that the mail questionnaire approach did not appear to be an effective way of obtaining much of the needed data about occupational licensing. Clearly, if the information required to answer questions about the impact of licensing on certain critical occupations was to be obtained, the study would have to be conducted in some other way. Would it be feasible, for example, to obtain such information through direct contacts with licensing agencies and with other agencies concerned with manpower problems?

Assuming that an exploratory study were to demonstrate the feasibility of the direct contact approach, one would then have to decide whether it would be worthwhile to conduct such a study on a nationwide basis. The decision would depend on the answers to two questions:

1) Are there a sufficient number of critical occupations for which licensing is required to warrant further study?
2) Does the preliminary evidence support the hypothesis that licensing exerts a significant influence on the supply and mobility of manpower in these critical occupations?

Beyond seeking answers to these questions, the investigators deemed it advisable to collect as much information as possible about the structure of licensing in various states and the ways in which the licensing laws are implemented.

This decision to broaden the scope of the inquiry resulted from the discovery, during the literature search, that very little about occupational licensing was to be found in published sources, and that nearly all available research had been performed solely by mail questionnaires or by analyzing already existing data. It seemed incredible to these investigators that an institution of such magnitude and social significance had escaped systematic study and analysis by students of public administration. Quite apart from the implications that licensing might have for certain critical shortage occupations, it seemed to the investigators that vocational educators and manpower officials would benefit from a clearer understanding of how licensing operated in the various states and how licensing influenced the availability of trained manpower.

The present study was designed with a twofold purpose in mind:

1) To demonstrate the feasibility of collecting detailed information about the structure of licensing at the state level and to report on the procedures used, especially in those licensed occupations in which skill shortages were known to exist.
2) To draw from the data such inferences as may be justified regarding the impact of licensing on the supply and mobility of manpower in skill shortage occupations.

II PROCEDURE

A. Selection of States

The initial procedural step for the study was to select five states, in which licensing practices would be studied. The decision to limit the feasibility study to five states was dictated by budgetary considerations. A large number of states in a single region might have been studied on a smaller travel budget, but this would have been at the expense of geographical diversity. In view of the fact that the study was intended to explore the feasibility of nationwide research, it was deemed advisable to select states from as many different regions as the budget would sustain.

Within each region, it was decided to select the state with the largest population since this would automatically provide information on licensing activities affecting the greatest number of individuals in the labor force. The five states selected were:

Northeast - New York
Southeast - Florida
Midwest - Illinois
Southwest - Texas
West - California

The population of these five states is approximately 57 million, nearly one-third that of the entire nation.

B. Locating the Licensing Agencies

Legislative manuals and state directories were used, when available, to determine which occupations were licensed and to locate key personnel in each of the five states. In those states for which manuals and directories were not immediately available, telephone calls were made to the offices of Attorneys General, Secretaries of State, and even Governors, in order to secure information about licensing agencies. These efforts enabled the investigators to compile a list of persons who should be contacted in each state.

C. Initial Mail Contact

Individually typed form letters were sent to all licensing personnel who had been identified from directories or through telephone contacts. The letter gave a brief explanation of the purpose of the study and requested information about licensing activities for which the recipient was responsible. Non-respondents were contacted by telephone and asked to provide the desired information.

D. Selecting Occupations for Study

In most instances the initial or first follow-up request yielded copies of the laws under which licensing was conducted. From an analysis of these laws, it was possible to determine whether the licensing applied to individuals or to institutions, and the educational level required of applicants for licensing.

All institutional licenses (such as Day Care Centers) were eliminated from further consideration. The question of educational level turned out to be more complex. It had been the original intent of the investigators to define non-professional occupations as those requiring fewer than four years of college. However, it was soon evident that individuals in a number of occupations with fewer than four years of college (e.g., Registered Nurses from three year diploma programs, Podiatrists, Optometrists) considered themselves as "professional." For this reason, "non-professional" was defined, for the purpose of this study, as those occupations for which not more than two years of post-high school training was required.

In preparing the list of occupations to be studied in depth, priority was given to those non-professional occupations in which manpower shortages were known to exist. The investigators also deemed it advisable to study certain other non-professional occupations even though these had not been identified as shortage occupations. Since only a limited number of these "other" occupations could be covered, the investigators arbitrarily selected those which called for skills training and involved large practitioner populations. Under these criteria, cosmetology and barbering were investigated in all five states, while such occupations as real estate salesmen, private investigation, or hearing aid dispensing were not studied in any state.

E. Selective Follow-Up

A follow-up letter was sent to those agencies in each state responsible for licensing occupations that had been selected for further study. This letter requested information about the licensing process; application forms; descriptions of test content; data relating to applicant volume, pass-fail rates, etc.; and a copy of the agencies' annual report. While application forms and annual reports were sometimes forthcoming, this letter yielded very little additional information. It was clear that anyone seeking data about the licensing process would have to obtain them by methods other than mail inquiry.

F. Development of the Interview Guide

An interview guide was developed to insure that the detailed information sought from licensing officials would be obtained about each of the topics covered by the proposal. The guide was prepared on the basis of informal interviews with licensing officials in both New Jersey and Michigan (prior to inauguration of the present study). It was used for the first time with officials in New York state and was modified on the basis of this experience to facilitate data collection in the other four states.

In practice, the interview guide was used in a very flexible manner. After outlining the purposes of the study, the interviewer generally permitted the interviewee to discuss structure, process, problems, etc. in his own way and at his own pace. Pertinent information was noted either directly on the interview form or on a separate note pad. Direct questions were used to obtain information needed to fill in gaps or to direct the interviewee's attention to some topic he had not covered. Thus, the primary purpose served by the interview guide was to insure that all pertinent data would be collected. By permitting each official to discuss the licensing operations in his field without imposing a rigid structure, the interviewer gained many insights that would not otherwise have emerged.

An interview guide for candidate surrogates was also prepared, but discarded when it became apparent that the surrogates were too diverse in their backgrounds and orientation to be covered by a single instrument. In its stead, an informal, open-end approach was used since the purpose in interviewing surrogates was to obtain (indirectly) some insights into the reactions of candidates for licensure. Among the surrogates interviewed were owners of schools which prepared applicants; employers and practitioners in the occupation; state employment service representatives; and officials of the Urban League. Information from these sources tended to be highly individualized and impressionistic. No generalizations are possible, although some of the comments that were recorded provided useful insights into the way licensing is perceived by those not directly involved in the licensing process.

G. Scheduling of Field Visits

The method of scheduling the field visits had to be varied on a state-by-state basis. In states with a centralized administration of licensing function, one could ask the director of the agency to make all necessary arrangements on behalf of the investigator. In other states, where the licensing function was decentralized, arrangements had to be made with each agency by letter or by telephone. In all states, it was difficult to predict precisely how long it would take to obtain the desired information. Moreover, as the interviews progressed, new leads were frequently uncovered which required follow-up. For example, the role of local governmental agencies in the licensing of certain construction trades had not been anticipated at the time plans for the study were made. Consequently, no time had been allocated to explore this field as thoroughly as would have been desirable. However, interviews with local licensing officials were sandwiched in whenever possible and provided the investigators with some insight into this aspect of licensing.

Interviews with candidate surrogates could not be scheduled in advance. In each community visited, the investigator endeavored to identify likely contacts and arranged to meet with them at mutually convenient times. While not an ideal arrangement, this method generally proved to be quite satisfactory.

H. Conducting the Field Visits

The investigator began his visitation in each state by interviewing those state officials and licensing board personnel whose names, addresses, and telephone numbers had been obtained prior to the field work. From these officials he also obtained names and addresses of licensing personnel not previously identified. Interviews with state officials brought out information about such things as the higher state authority to whom they were responsible, clarification of the laws under which they operated, the degree of autonomy allowed the licensing boards within their jurisdiction, routes of appeal, etc.

From licensing board personnel, (most of whom were executive secretaries of their respective boards) the investigator sought information about the composition of the licensing boards, how they functioned, and the role board members played in the licensing process. He also discussed in detail the licensing process and the methods of evaluating candidates. Special attention was given to the testing process, including how tests were developed, administered, scored, analyzed, etc. In each instance data was requested regarding candidate volume, pass-fail rates, and numbers of candidates granted licenses by endorsement or through reciprocity agreements. The whole matter of reciprocity was explored in detail.

The candidate surrogates were queried about their attitudes toward the licensing process and, more specifically, about the degree to which they felt licensing acted as a deterrent to entry into non-professional occupations. Representatives of minority groups were asked about difficulties members of their groups may have experienced in obtaining licenses. Schools were asked how difficult it was for their graduates to become licensed.

III STRUCTURE OF OCCUPATIONAL LICENSING

The investigator found that states differ so widely in the structure of occupational licensing that generalization became not only difficult, but extremely hazardous. As a result, it was decided to describe the administrative organization within each state separately and to draw attention to similarities and differences where appropriate.

A. California

All occupational licensing in the state of California occurs within the Department of Professional and Vocational Standards, located in Sacramento. This department was created in 1929 for the purpose of co-ordinating the activities of the then-existing licensing agencies. Comments made by Governor Young at the time outlined the structure of the department as follows:

> "...In 1929, there was created the new Department of Professional and Vocational Standards. The law creating this department of the state government provided for the grouping under one executive head, as the Director of the Department, the fourteen examining boards and a bureau for the registration and licensing of contractors. Hereby was created a businesslike arrangement for the direct supervision of the affairs of all of the professional and vocational licensing boards in the state government."
>
> "The powers of each board, as created by the particular legislation affecting that board, have all been preserved as to the setting of standards and the maintaining of such standards through proper investigation and examination. The business organization of the board is placed under the supervision of the director of the department, who is made accountable to the Governor for the general supervision of the activities of all boards."
>
> "The department office has, become the clearing house for the financial and administrative problems of the boards. The board members have in the person of the director a direct representative in the executive branch of the state government." (5)

Except for the fact that the department has grown from 14 examining boards to 28, Governor Young's comments present an essentially accurate description of the current structure of the department.

The 28 examining boards administer about 50,000 examinations annually in 3,900 examination sittings. These examinations help to determine the qualifications of individuals seeking licensure or certification in any of some 300 different categories. Those who meet the qualifications for licensure or certification become part of the nearly 700,000 who are licensed or certified by the Department of Professional and Vocational Standards.

The Director of the Department of Professional and Vocational Standards is a gubernatorial appointee and is responsible to the Governor through the Secretary of Business and Transportation and the Governor's Cabinet Secretary. He sees his role as that of intermediary between the various licensing boards and the Executive Branch. To clarify this relationship, he has prepared a booklet on "Departmental Policies" in which he cites codes which specify the functions of the Director and the respective roles of the Department and the licensing agencies. In addition he has provided a line and staff chart delineating the "chain of command" for licensing board members, executive secretaries, and other personnel within the Department of Professional and Vocational Standards. (5)

Each licensing agency promulgates rules and regulations to implement the basic law under which it operates. All rules and regulations are subject to the California Administrative Procedure Act, which states that "...no regulation adopted is valid unless consistent and not in conflict with the Statute and reasonably necessary to effectuate the purpose of the Statute." The Office of Administrative Procedure must approve the language and style of each rule and regulation before it is endorsed by the Secretary of State. (5)

In addition to these functions pertaining to the development of the rules and regulations, the Administrative Procedure Act outlines procedures for the conduct of hearings by the various licensing boards. These procedures include numerous safeguards for the individual, including the right of appeal and judicial review.

Although the Administrative Procedure Act exercises a good deal of control over licensing agencies in many areas of their operation, the most confining authority within which any of the agencies operate is the specific act which governs them. This is the law which determines such things as board member qualifications, terms of office, number of prescribed meetings per year, powers of the board, licensure requirements of candidates, nature of the law (some laws are permissive, in that they allow persons to practice in the occupation without being licensed--others are mandatory), categories of licensure, the examining process, inspection procedures and penalties for infraction, provisions for temporary licensure, reciprocity, reasons for suspension or revocation, and the prescribed fees which may be charged candidates.

The various licensing agencies in California submit reports to the Director of the Department of Professional and Vocational Standards. The Department itself issues periodic reports to the Governor, which contain the statistics pertinent to the operation of the department--volume of licensure, summaries of requirements of candidates, lists of licenses issued within the Department, history and organization of the various agencies, and indices of laws relevant to the functions of the individual licensing boards.

As noted above, the various boards exercise considerable autonomy within the framework outlined. The key person in every board's operation is its executive secretary. The position of executive secretary involves a number of complex relationships (and the potential for divided loyalties) between the licensing boards and the Department of Professional and Vocational Standards. An executive secretary is hired by the board and may be dismissed at the will of the board. However, a board must obtain the Director's approval for any replacement. Moreover, most executive secretaries are under California State Civil Service. Office space and supplies are furnished by the State and all records are State property. It is through this complex set of interrelationship that the Department is able to maintain control over boards that seek to expand their authority or spheres of influence.

In 1967, a legislative Commission on California State Government and Economy (known as the "Little Hoover Commission") examined the structure and function of the Department of Professional and Vocational Standards. In the introduction to its report, the Commission describes the role of licensing agencies as follows:

> "The justification for the State's controlling entry into a particular profession or vocation and regulating the activities of practitioners is simply, and exclusively, protection of the public. Since licensure is a restriction on the freedom of individuals, the need for government intervention must be clearly demonstrated. There is no need to belabor the point that a licensing program can be used to the special advantage of the licensed group--by restricting entry even of reasonably qualified persons and thus reducing competition or by protecting licensees who are incompetent, negligent, or acting contrary to the public good. Further, licensing programs have been used in some instances to advance the professional status of occupational groups, with no benefit to the public or even counter to the public interest. Examples of these distortions of the licensing function are easily found. It is equally clear that many licensing programs give the public a protection not otherwise attainable. What is good for a particular group may or may not be good for the public generally. There need not be a conflict between the licensed group interest and the general public interest; both can be served to the benefit of all." (6)

One section of the Commission's report (Chapter III, page 14) makes a number of general recommendations which appear to have manpower implications:

1. All licensing should be mandatory (some licensing is now permissive), because "To permit unlicensed, i.e., unqualified, persons to function in that capacity is to leave the public unprotected."

2. "Examinations developed or approved by national or professional associations and used in a number of states should be used in California unless substantial evidence exists that their use would not provide the public a reasonable protection."

3. "The code provisions and board policies regarding reciprocity should be liberalized to permit licensees of states maintaining qualifications standards comparable to California's to obtain California licenses without examination or waiting periods."

4. The definition of "good moral character" should be defined by the Attorney General and the provisions

> regarding character requirements in the licensing act should be made more consistent. (6)

The report recognizes the danger of discrimination through the examining process. In addition to recommending the use of national examinations where available, it recommends the establishment of a central test development and research capability within the Department to insure that examinations will be of high quality and free of bias.

B. Florida

All licensing activity at the state level is centered in the Governor's office, with the Attorney General providing legal counsel to the various boards on request. The Secretary of State maintains official records of board actions and regulations. A listing of names, addresses, and telephone numbers of all executive agencies, including licensing boards, is published annually by the Secretary of State.

Licensing boards in Florida enjoy a high degree of autonomy. They determine the content of all written and performance tests, and establish acceptable standards of test performance which, in turn, determine the pass-fail rate. Generally, the only restrictions placed on boards are those specified in the law or those which result from the budgetary process. Each board must submit its budget to the legislature every other year, when that body meets, and to the cabinet on alternate years. Once approved by the legislature, the budget may not be increased, nor may personnel be employed in excess of those provided for in the budget.

Board operations are completely decentralized. By tradition, the main office of a licensing board is usually in the city where the board secretary resides. Thus, in January 1968 the Sanitarian Board's headquarters was in Pensacola; barbers, chiropractors, lawyers, cosmetologists, and watchmakers are licensed by boards whose executive secretaries reside in Tallahassee; accountants maintain their offices in Gainesville; architects in Ormand Beach; opticians in Tampa; nurses and dentists in Jacksonville; and medical personnel in Miami. Next year some of these will probably be located in other communities, as changes in personnel occur.

All board appointments are made by the Governor in accord with the requirements of the various laws. Some boards (e.g., opticians) elect a board member as Secretary-Treasurer. He, in turn, may employ his wife or secretary to handle inquiries and routine operations. Most boards seem to prefer to employ full time Executive Directors who are administrators and not members of the profession or occupation being licensed. The Executive Director of the Barbers' Sanitary Commission, for example, is a Civil Engineer. The Executive Secretary of the Cosmetology Board was formerly a secretary in the State Headquarters of the American Legion.

The boards have full authority to develop and conduct examinations, review relevant information relating to an applicant's character, issue regulations governing the professional conduct of those licensed, and conditions in establishments where they work. Many boards employ inspectors to check on compliance with rules and regulations and to investigate complaints.

Boards are required by law to submit annual reports to the Governor, but there are no definitions or guidelines as to what constitutes a "report." As a result, there is wide variation in the information provided. Some boards give a detailed accounting of their activities, including number of candidates tested, pass-fail rates, etc.; others limit themselves to the fiscal aspects only.

Since the current Governor took office, he has required each board to submit a copy of its agenda prior to every scheduled meeting. A representative of the Governor's office (usually a member of his legal staff) may then attend if the agenda warrants. The Governor has also taken an interest in the attendance records of board members. He is reputed to have replaced several members who were unable to offer satisfactory explanations for their failure to attend meetings regularly.

C. Illinois

The Department of Registration and Education administers all laws relating to licensing of trades and professions in Illinois. The licensing laws under which it functions embrace three major groups of professions and trades:

> "(1) Professions involving the care, treatment or correction of human ailments, i.e., pharmacists, physicians, chiropractors, osteopaths and midwives; dentists, dental hygienists and specialists; optometrists; podiatrists; professional and practical nurses; physical therapists; and psychologists.
>
> (2) Professions and trades for which public health safeguards have been established include funeral directors and embalmers; horseshoers; plumbers; veterinarians; barbers and barber teachers; beauty culturists and beauty culture teachers, professional engineers, water well contractors, water well pump installation contractors, sanitarians and shorthand reporters.
>
> (3) Professions and trades licensed for the protection of the public against fraud and incompetency, include architects; real estate brokers and salesmen; structural engineers; land surveyors; private detectives; public accountants; vocational schools; tree experts and detection of deception examiners."
> (2)

A total of 29 professions and trades involving 84 separate licenses are administered by the Division.

The Director of the Department of Registration and Education is appointed by the Governor. The Director, in turn, appoints the members of the various examining committees from rosters of nominees submitted by professional and trade associations. These appointments are then confirmed by the Governor. The Director selects the staff of his Department.

The Department conducts approximately 140 examinations each year and issues more than 28,500 new licenses annually. Approximately 300,000 registrants renew their licenses annually or biennually.

Before being accepted for examination, each applicant must submit proof of having fulfilled the education and experience requirements of the specific law under which he is applying. These requirements as well as examination and certification fees, vary with the profession or trade.

The Department maintains a staff of field investigators and inspectors assigned to the Investigation Section. They perform regulatory duties in connection with inspection and enforcement of the various laws administered by the Department.

Each licensing committee has the services of a professional Licensing Supervisor, who is an employee of the Department and whose functions are comparable to those of an executive secretary in other states. As state employees, their loyalties are oriented toward the Department rather than toward the licensing committees with whom they work. The primary function of the Professional Licensing Supervisor seems to be to arrange for the administration of examinations and to maintain candidate rosters.

The committees are relatively autonomous in function, though the Director of the Department retains a veto power over their actions. Committees are responsible for building tests and for grading them. Committees also conduct formal hearings regarding failure to renew (practitioners may be continuing to practice, but without a license), and suspension or revocation of licenses. Upon completion of hearings, committees make their recommendations to the Director, who has the final authority for action.

The basic laws governing each licensed occupation are printed in a common format. They cover all aspects of licensing, from the basic qualifications of applicants for licensure and fees through a licensee's route of appeal should his license be placed in jeopardy.

In addition to the basic law, committees formulate rules and regulations which must be approved by the Department. There does not appear to be any law in Illinois governing the procedures to be followed in establishing rules and regulations, or in the conduct of hearings, comparable to the Administrative Procedure Act in California.

D. New York

The Legislative Manual for New York State indicates that eight of the twenty-one departments of government engage in licensing activities of some type. However, after scrutiny of published materials, correspondence, and telephone communication, it became evident that only two departments were concerned with the licensing of non-professional occupations of the type under consideration in this survey. These were the Department of State and the Department of Education.

1. The Department of State

The Division of Licensing Services within the Department of State licenses and regulates brokers and real estate salesmen, barbers, cosmetologists and hairdressers, private investigators, and steamship ticket agents. This Division is under the supervision of a Director, who has offices in Albany and New York City. He is assisted in his administrative function by two assistant directors who are responsible for administering the licensing and regulatory functions of the Division. The division maintains field offices in seven cities: Utica, New York, Syracuse, Binghamton, Mineola, Buffalo, and Rochester.

The licensing boards in the Department of State are advisory only. They have no authority to formulate policy or to develop and administer examinations. The Director of the Division periodically calls on the boards to make recommendations and, though he often follows their recommendations, he is under no legal obligation to so do. They are perceived by the Director primarily as "sounding boards" for the industries licensed by the Department. In one instance, the board concerned with barbering suggested that the regulations governing floor material in barber shops be modified as requested. A similar change, relating to the consumption of food in beauty parlors, was made at the request of the Cosmetology Board.

An Examination Technician in the licensing division carries out the functions that are normally performed by licensing board members in other states. It is his responsibility to prepare and administer written and performance examinations, evaluate candidate performance, and report results to the Division Director or to his deputies.

2. The Department of Education

Bulletins of the University of the State of New York describe the Board of Regents, which controls the Department of Education, as, "the most powerful professional licensing authority in the democratic world..." In support of this claim, the bulletins identify 21 professions which are licensed by the Department of Education and for which the current registration (1966-68) exceeds 320,000.

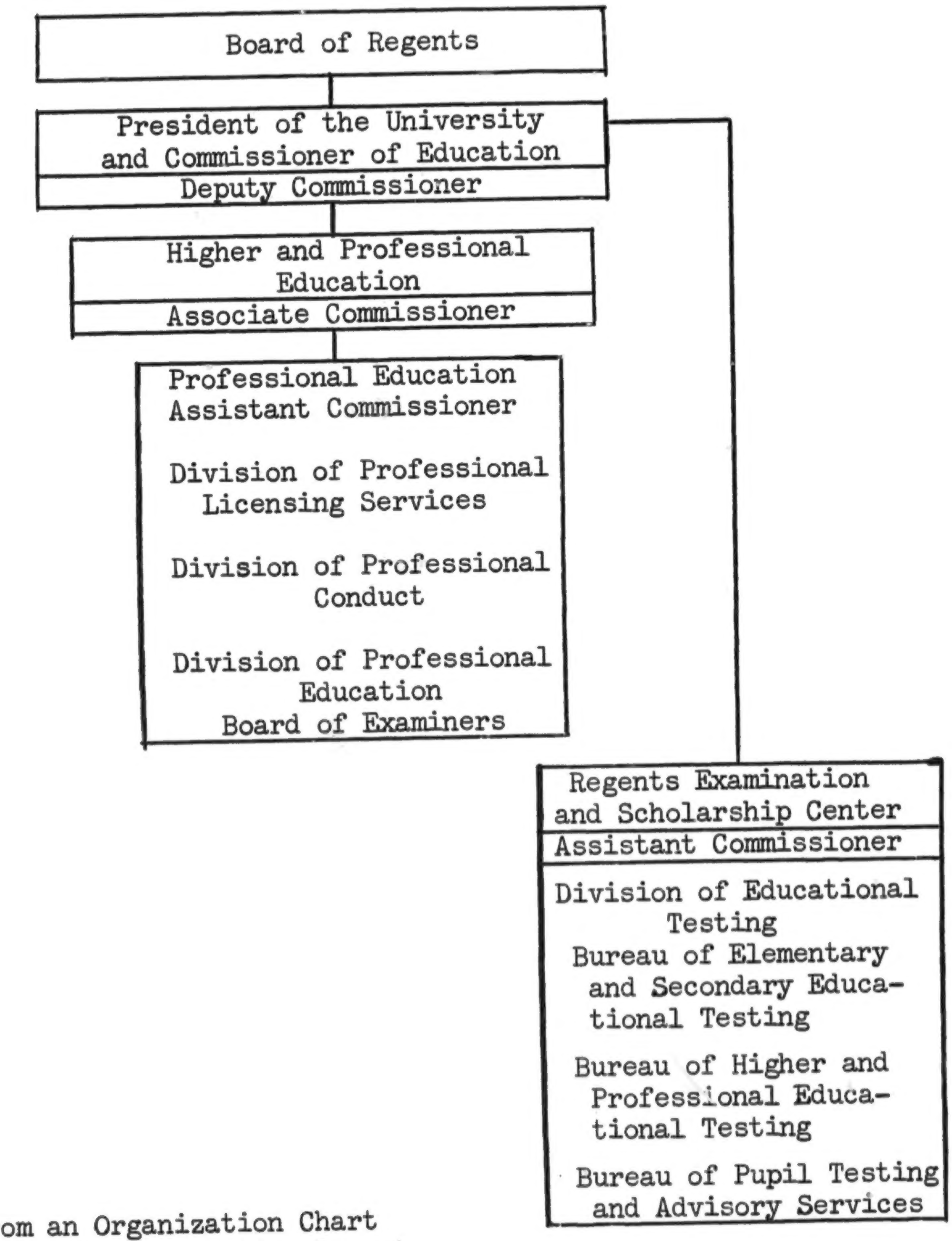
Although the Board of Regents is identified as the licensing authority, its direct involvement in licensing appears minimal. Candidates for licensure do have the right of appeal to the Board of Regents if they feel that they have been treated unfairly by a board of examiners or one of the other divisions under the Assistant Commissioner for Professional Education. Such appeals are made occasionally and, in these cases, the Board of Regents acts to make decisions about individual candidates for licensure. However, it would appear that this is an unusual circumstance.

All laws under which the examining boards operate exist under an "umbrella", known as the Regulations of the Commissioner of Education of the State of New York. These regulations define the procedures which may be employed by the various divisions in enforcing licensing laws. Although the examining boards may in practice contribute to these regulations, the regulations are in fact procedural directives from the Board of Regents and provide an operational frame of reference within which the examining boards are expected to function.

An Assistant Commissioner for Professional Education, within the Department of Education, directs the operation of three divisions which have the responsibility for examining, licensing, and regulating a number of professional and non-professional occupations. Generally, the examining function is performed by the Division of Professional Licensing Services; and the regulatory function by the Division of Professional Conduct. All are under the jurisdiction of the Assistant Commissioner for Professional Education. (See table, page 18)

THE UNIVERSITY OF THE STATE OF NEW YORK

THE STATE EDUCATION DEPARTMENT


Board of Regents
President of the University and Commissioner of Education
Deputy Commissioner
Higher and Professional Education
Associate Commissioner
Professional Education
Assistant Commissioner
Division of Professional Licensing Services
Division of Professional Conduct
Division of Professional Education
Board of Examiners
Regents Examination and Scholarship Center
Assistant Commissioner
Division of Educational Testing
Bureau of Elementary and Secondary Educational Testing
Bureau of Higher and Professional Educational Testing
Bureau of Pupil Testing and Advisory Services

Excerpted from an Organization Chart provided by The State Education Department, Albany.

The Division of Professional Licensing Services is essentially a housekeeping division. It receives applications for licensing and carries out all operations from the evaluation of credentials, admission to examinations, administration and scoring of tests, reporting results to candidates, and registering all licensed practitioners.

Perhaps the most complex activity of the Division of Professional Licensing Services is the evaluation of credentials of applicants from other states and foreign countries to assist licensing boards in making decisions about the educational qualifications of applicants. The staff of the Division must engage in considerable correspondence with out-of-state and out-of-country institutions to determine the comparability of course content with courses offered in New York State institutions. A candidate is not required to repeat courses that are judged to be equivalent. If a candidate takes exception to a determination of the Division of Licensing Services, he may appeal to the Board of Regents.

The Division of Professional Conduct. As its name implies, this Division investigates complaints of alleged violations of professional laws or board regulations and participates in disciplinary proceedings.

The Division of Professional Education is the division within which the various Boards of Examiners function. The Boards prepare or approve examinations, review qualifications of candidates, and participate in setting curriculum standards for schools and colleges.

The Division of Professional Education employs executive secretaries to handle the business of each board of examiners. When the volume of licensing is too small to require the services of a full time secretary, an executive secretary may conduct the business of several boards. The Board of Examiners may obtain consultative services and editorial assistance in the preparation of its examinations from the Bureau of Higher and Professional Educational Testing which is located in the Regents Examination and Scholarship Center, headed by an Assistant Commissioner (see chart). Thus, the testing resources of one segment of the Department of Education are available to another segment, namely the Professional Education Division.

It should be noted that, while occupational licensing within the Department of Education appears to be centralized within the Division of Professional Education, the actual operation of licensing is diffuse. The candidate does not deal with a licensing board through its executive secretary, as in a number of other states. Rather, he deals primarily with a somewhat impersonal bureacracy...The Division of Licensing Services. It is also noteworthy that his route of appeal is not to the Board of Examiners, but to the Board of Regents.

E. Texas

Occupational licensing in the state of Texas is not centralized under any single agency or director, though most executive secretaries of the various licensing boards are located within the capitol complex in Austin.

Each of the licensing boards reports directly to the Governor. Because these reports are submitted annually and are often simply statements of licensure volume and accountings of funds, the Governor does not appear to exert any significant regulatory influence on the boards. His only apparent means of regulating the boards is through his power to determine their membership through appointment. This power, though great, is limited by the length of time of the various appointments.

Some of the licensing boards in Texas are made up of members who work full time for the board and are paid an annual salary for their services (as in the case of the Texas State Board of Cosmetology), though most boards operate on a per diem basis.

IV THE LICENSING OF NON-PROFESSIONAL OCCUPATIONS IN WHICH SKILL SHORTAGES EXIST

A. Overview: Which of the skilled shortage occupations are licensed?

As stated earlier, the present investigation was undertaken to ascertain 1) whether licensing inhibited entry into certain non-professional occupations in which manpower shortages are known to exist, and 2) whether licensing inhibited interstate mobility of practitioners in these occupations.

Before either question could be answered, it was necessary to determine how many of the critical shortage occupations were, in fact, subject to licensing in one or more of the five pilot states.

Information was also obtained about the licensing of these shortage occupations by either municipalities or by a Federal agency.

The table below shows which of the critical shortage occupations are licensed and at what level such licensing occurs. (page 22)

Since it was impossible in the context of the present study to visit municipalities in each state, no claims can be made for the completeness of the data regarding licensing at the municipal level. Inquiries regarding local licensing were made as time permitted in those communities which were visited in the process of gathering information about occupations licensed at the state level. In all likelihood there are other shortage occupations licensed by municipalities in the pilot-study states about which no information was obtained.

Although only a limited amount of information was gathered regarding municipal licensing, it is clear that any national study seeking to assess the possible impact of licensing on manpower must take into account the licensing activity at the local level. This finding underscores the wisdom of the pilot study approach. Without the experience and insights gained from the exploratory study, local licensing might have been neglected, thereby vitiating the usefulness of the data and any conclusions based on such data.

LICENSING IN THE SKILL SHORTAGE OCCUPATIONS

Shortage Occupations	Cal.	Fla.	Ill.	N. Y.	Texas
Air Conditioning and refrigerator maintenance and repair servicemen		L		L	L
Aircraft mechanics	N	N	N	N	N
Auto mechanics (motor vehicle servicemen)					
Dental Hygienists	S	S	S	S	S
Draftsmen					
Electricians	L	L	L	L	L
Electronics technicians and repairmen					
Elevator maintenance men or repairmen	L	L		L	L
Laundry machine operators - dry cleaners	S				
Medical laboratory assistants		S			
Ophthalmic technicians					
Opticians (Ophthalmic Dispensers)		S		S	
Plumbers and pipe fitters	L	L	S	L	S
Practical nurses	S	S	S	S	S
Psychiatric attendants	S				
Psychologist technicians					
Sanitarians[a]					

[a] This occupation was not investigated because it is a profession, and does not meet the criteria for the study.

L - Licensed at the local level
S - Licensed at the state level
N - Licensed at the national level

In the section which follows, each of the foregoing occupations will be discussed in detail

B. The Licensing Process in Skill Shortage Occupations

1. The Licensing of Aircraft Mechanics

Aircraft mechanics are certified by the Federal Aviation Administration (FAA), a division of the Department of Transportation. Separate ratings are given for "airframe mechanic" and for "power plant mechanic." An individual may qualify for either or both of these ratings. Certificated mechanics are authorized to make "air worthiness determinations" about all types of civilian aircraft. According to FAA regulations:

> The certificated airframe mechanic "may approve and return to service an airframe, or any related part or appliance after he has performed, supervised, or inspected its maintenance or alteration (excluding major repairs and major alterations). In addition, he may perform the 100-hour inspection required... on an airframe, or any related part or appliance, and approve and return it to service."
>
> A certified power plant mechanic "may approve and return to service a power plant or propeller or any related part or appliance, after he has performed, supervised, or inspected its maintenance or alteration (excluding major repairs and major alterations). In addition, he may perform the 100-hour inspection required...on a power plant or propeller, or any part thereof, and approve and return it to service." (8)

An applicant for certification as an aircraft mechanic must be at least 18 years of age. He must be able to read, write, speak, and understand the English language, if he is to work within the United States. He must also provide evidence that he has met the experience requirements for the rating. The experience requirements may be satisfied in two ways.

a) By providing evidence of graduation from a Certificated Mechanics School

b) By presenting documentary evidence of having had at least 18 months of practical experience performing the duties appropriate for either rating. A person applying for both ratings on the basis of having practical experience, must have had 30 months of such concurment experience.

The applicant then applies to take a written examination at the nearest FAA Flight Service Office. He must make a prior appointment and allow sufficient time to be interviewed regarding his eligibility to take the written examination. These examinations are administered by designated FAA personnel and usually can only be taken during working hours. In special circumstances, a candidate can make arrangements to take the examination at another location or during other than normal working hours.

The airframe examination presently in use consists of five sections, for which five hours of testing time is allotted. The power plant examination has six sections, for which six hours are allowed. In practice, applicants spend only about half of the allotted time taking these examinations.

The examinations are of the multiple-choice type. Answers are recorded on special answer sheets which are scored by machine at a central location. Papers with grades below the 70 percent cut-off are routinely rescored by hand. It normally requires five working days to process the answer sheets and to report grades.

An individual who fails an examination may retake it after thirty days. If a separate grade is given for each section, only the failed section or sections have to be retaken. If the individual seeks special instruction (in the subjects failed) from a certificated or appropriately-rated mechanic or instructor, he may request reexamination in less than thirty days. Documentary evidence is required from the instructor as to the nature of the instruction, dates given, and amount of time involved.

The written examinations are prepared at a central FAA facility in Oklahoma City. The examination is divided into three parts (1) a general section, (2) an airframe section, and (3) a power plant section. In addition to preparing the examinations, the staff at the Examination Center makes detailed analyses of test questions.

The FAA issues an Examination Guide (AC No. 65-2) which describes the topics covered in the general examination and in each of the specialty examinations. Seventeen areas are listed under the "general" category, twenty-three topics under the "airframe" category, and thirty-one under the "power plant" category. Sample examination questions and correct answers are included in the Examination Guide. (7)

After he has passed the written examination, the applicant must arrange to take the oral and practical examinations, which are given simultaneously. Typical work assignments in the oral and practical examinations would be:

-Make a sheet metal splice
-Make a wood spar splice
-Rib stitch a wing

- Attach an electrical cable terminal
- Bleed and adjust hydraulic brakes
- Time the valves of an engine
- Adjust carburetor float level
- Remove and install a propeller

The examiner may ask the applicant questions like the following as he carries out the work assignment:

- What is a circuit breaker and how does it work?
- What causes vapor lock in a fuel line?
- How would you check a propeller for correct track?
- What is the purpose of a pump unloading valve in a hydraulic system?

The individual wishing to take the oral and practical examination must furnish or arrange for the facility, materials, and supplies required for the examination. These examinations require about six hours and are administered by FAA Inspectors or by FAA designated mechanic examiners. Individual circumstances may make examination by one more convenient than by the other. The scope of the examination is said to be the same in either case.

The mechanic examiners are private persons who have been designated by FAA to conduct certain tests on behalf of the agency. These individuals are not employed by or in any way reimbursed by FAA for their time, the use of their facilities, or materials; consequently, they are authorized to charge a fee for administering examinations. The size of the fee is not specified in the FAA Regulations.

FAA Inspectors and designated mechanic examiners are provided with a Mechanic Examiner's Handbook which contains suggested procedures and specific questions to be included in the oral and practical examinations. Examiners are not restricted to the suggestions outlined in the Handbook and may ask other questions that are appropriate. Standards for evaluating the oral and practical examinations have been established and maintained by FAA largely through personal contact with examiners, rather than through written publications.

The oral and practical examinations are graded by the examiner as soon as they are completed. If any part of the oral or practical examination is failed, he records the titles of the sections failed on a special form and returns it to FAA. An applicant who fails has the option of returning to the same examiner or he may seek out another qualified mechanic examiner to administer the retest. The thirty day waiting period may be waived (as in the case of the written examination) if the applicant can present evidence that he has received training from a qualified instructor in the topics he failed on the oral and/or practical examination.

The investigators were advised by FAA officials that the written examination is presently being revised. In July, 1968, the present examination will be replaced by two, three-section tests. About four hours of testing time will be needed to complete each examination. The FAA is also reviewing its oral and practical examination procedures to determine what can be done to standardize the administration and scoring of these tests.

2. The Licensing of Practical Nurses

Practical nurses are licensed in each of the five pilot-study states as well as in the other forty-five states and the District of Columbia. All states (except Texas) make use of the "State Board Test Pool" (SBTP) examination in the licensing process. Texas has announced its intention of adopting the SBTP examination in October, 1968.

The SBTP examination in practical nursing was given for the first time in 1947. It is developed cooperatively by representatives of various state licensing boards and the professional staff of the National League for Nursing (NLN). A Blueprint Committee, appointed by various states on a rotating basis, first prepares the specifications for the examination. The various states are then asked to nominate highly qualified subject matter experts from their respective states to serve as item writers. These test development committees (generally consisting of six members) meet with members of the NLN staff to prepare questions in their specialties. The questions are edited by the NLN staff and assembled into test books which are then sent to each state board for review. The review process is carried out at a special meeting of each board. All comments and suggestions are noted on a single copy of the examination. No board member is permitted to make notes or to remove a copy of the review booklet from the meeting room.

When all boards have returned their review booklets to NLN, careful note is made of those items considered satisfactory as written, those that would be satisfactory if modified, and those considered unsatisfactory.

A preliminary form of the test is then administered to applicants in a cross-section of states. The results are subjected to item analysis in order to determine which items should be retained and which deleted from the final form. The items which survive this analysis are printed in final form and made available to state boards for use in the licensing process.

The norms for each examination are based upon results obtained from a large sample of first time candidates drawn from a majority of the states. In order to standardize the results, all raw scores are converted to standard scores with a national mean of 500 and a standard deviation of 100. It is expected that the scores of approximately 68% of those who take the examination will fall between a standard score of 400 and a standard score of 600. All but two states use a cut-off score of 350 to determine if a candidate has passed the examination. (California has set its qualifying score at 400). It can be expected that approximately 7% of first-time examinees nationally will fail if 350 is used as the cut-off score. Raising the cut-off score to 400, as California has done, should raise the proportion failing to about 16%.

In order to preserve test security, each board enters into a contract with the National League for Nursing and the American Nurses Association (ANA) under which it agrees to abide by rather stringent procedures designed to safeguard security. Any violation of security by a board would be considered a breach of contract and would mean the denial of access by the offending state to future tests produced by these agencies.

The Practical Nurse Examination requires four hours of testing time--two hours in the morning and two in the afternoon. All answer sheets are machine scored by NLN in New York City and reports are sent to state boards within fifteen working days after the papers are received. An applicant who believes that his paper has not been scored correctly may request that it be rescored. The applicant who fails is required to retake the whole examination. Partial credit is not given, nor is the candidate advised of his areas of weakness. (3)

The use of this national examination has enabled a practical nurse who has been examined in one state to have his score sent to any other state for evaluation. If he meets the other requirements for licensure, and his score is above the cut-off score in the state in which he is seeking licensure, he need not retake the examination; that is, he may be licensed by endorsement.

Although the SBTP examination facilitates the interstate mobility of practical nurses, it does not automatically follow that licensure present no barriers to entry into this occupation or to mobility across state lines. In the section which follows, the licensing process in each of the five pilot-study states will be reviewed and special problems noted.

(a) The Licensing of Practical Nurses in California

The Vocational Nursing Act

Vocational nurses in California have been licensed since 1951 under the provisions of the "Vocational Nursing Practice Act," which was most recently revised in 1967. The act is permissive in that it permits persons to practice as vocational nurses without having been licensed, though it does prohibit those who do so from calling themselves Licensed Vocational Nurses.

Most practicing vocational nurses make every attempt to get licensed. Those who hire vocational nurses give preference to those who are licensed because they consider the licensed vocational nurses better qualified than those who are not licensed.

The Board of Vocational Nurse Examiners

The Board of Vocational Nurse Examiners of California consists of 11 members, who must meet the following qualifications:

One member, MD
One member, RN, with five years experience as a teacher
One member, Hospital Administrator
One member, Public School Administrator of California
Two members, Certified Psychiatric Technicians with five years experience
Five members, Licensed Vocational Nurses who have been licensed for three years

The same board administers both the Vocational Nursing Act and the Psychiatric Technicians Law in addition to accrediting schools of vocational nursing. It enjoys relatively complete autonomy within its administrative sphere except in the area of budgeting, where the legislature maintains rather tight control. Board members receive a per diem of $25, plus up to $25 per day for expenses, for attending meetings. Board meetings are held every three months in one of the metropolitan centers of the state (Sacramento, San Francisco, Los Angeles, San Diego, or Bakersfield.)

The Executive Secretary is hired by the Board and is responsible for the implementation of the Board's policies. He conducts the routine of licensing within the framework established by the Board. When situations arise which are not covered by the policy guidelines, the Executive Secretary refers the matter to the Board for action.

Licensure Requirements

All applicants for licensure as vocational nurses in California must have completed the 10th grade or its equivalent, must have completed one of the five types of education outlined in the law, be a citizen (or have indicated intention), be of good character and pay the required fees. In addition, all applicants must pass a written examination.

The five types of education outlined in the law are:

1) Successful completion of a California-accredited 12-month course.
2) Successful completion of an equivalent 12-month course accredited by the state in which it was conducted.
3) Successful completion of a basic course of instruction offered by the military and 36 months service in the Medical Corps of any branch of the armed forces.

4) A 450-hour approved course plus 36 months of paid experience during the previous four years.

5) Equivalent education and experience which can, by formula, be shown to be equivalent to 78 months (6½ years) of paid nursing experience.

Fingerprints are required of all applicants and are used as a means of identifying those who have been arrested. Applicants who have been convicted of a felony or of having committed a crime involving moral turpitude are not granted licensure. Those who have been convicted of less serious crimes may be licensed at the discretion of the Board.

There is one aspect of the California law which merits special mention. Until recently, the Board of Vocational Nurse Examiners had been interpreting the Vocational Nursing Practice Act as though some formal education was a requirement for licensure. However, there was buried in the law an "experience only" clause, under which some applicants were seeking licensure. A recent ruling of the Attorney General of California (requested by the Board) has directed the Board to license applicants under this "experience only" clause if they were able to pass the test. In this case the letter of the law was adhered to even though it was probably not the intent of the law to license applicants by experience only, beyond those who were actually practicing at the time the law became effective. After July, 1968, the "experience only" clause will be changed to "equivalent education and experience."

Examination Results in California

The use of a cut-off score of 400 on the SBTP examination, has yielded an overall fail rate of 19% over the past four years.

The fail rate for candidates who have attended California-accredited schools of vocational nursing and were taking the test for the first time has been between 4% and 8%, while the fail rate for candidates who have not attended California-accredited schools has been between 28% and 69%. Within the latter category are those who attempt to enter the occupation from the military or by equivalency ("education and/or equivalent experience"). Their fail rates are generally the highest (40-69%). Those who re-take the test ordinarily experience a re-take fail rate about the same as the military and equivalency candidates.

About four out of every ten candidates in California who took the SBTP examination for the first time in 1967 were in this "high fail rate" category (with 28-69% of them failing the exam--based on a total first-time examination population of just over 3,000). The proportion is high and would provide a basis for suspecting discrimination against all candidates who had not attended California--accredited schools were it not for the fact that all took an examination which had been developed and normed nationally.

It is noteworthy that in 1967 there were 695 in-migrants licensed by endorsement while only 80 were required to take the SBTP examination in order to be licensed. Those who were required to take the SBTP either had not taken it previously or, if they had, had failed to attain California's minimum cut-off score of 400.

It takes an in-state applicant about seven weeks to become licensed by the ordinary licensure route; however out-of-staters may be licensed in one month or less. Since applicants may practice while waiting (the law is permissive) there is no need for a temporary license.

Although the fact that a national examination is used does enable an incoming vocational nurse to become licensed more quickly, there are some barriers. A requirement that an applicant must have completed an accredited program or its out-of-state equivalent has created a number of problems, especially for foreign nurses. Their programs are obviously not accredited by California, so must be carefully investigated to determine equivalency. They are very often found not to be equivalent.

Then, too, NLN offers no breakdown as to a candidate's areas of weakness should he fail the SBTP exam. This creates a problem for candidates who seek licensure on the basis of experience and have little or no formal schooling.

Licensing Volume in California

California issued 3,246 new licenses in 1967, to bring its number of licensed vocational nurses to 26,293 at the end of the year. This is a 17% increase over the number licensed in 1966. Nearly 50% more applications were received during 1967 than in 1966. If the proportion of applications accepted is held reasonably constant, the number of licensed vocational nurses in California should increase significantly during 1968.

(b) The Licensing of Practical Nurses in Florida

The Florida State Board of Nursing

The State Board of Nursing consists of five Registered Nurses and two Practical Nurses, all appointed by the Governor. Board members serve four year terms and are reimbursed at the rate of $12.00 per day plus expenses. The Board meets approximately six times a year. There is no connection between the State Board of Nursing and the State Board of Health. The Board's activities are supported entirely from income derived from licensing fees. However, its budget must be approved by the Legislature.

The activities of the Board are administered by a paid staff of nineteen people who handle all routine matters. Problem cases are brought to the attention of the Board. The Board also considers special situations, such as the inability of a highly qualified candidates to finish the examination because of a language problem. Disciplinary matters also come before the Board for action.

Requirements for Licensure

Although the law requires only two years of high school, most accredited schools of practical nursing will not accept an individual who is not a high school graduate or its equivalent.

In order to sit for the examination, a person must be a graduate of an accredited school of practical nursing (1 year) or have at least 1½ years of training in a professional nursing program. If the training is roughly equivalent, the Board may allow the candidate to take the examination. If there are major deficiencies (e.g.: no pediatric or psychiatric experience) they may require additional training. The training institution attests to the good character of the applicant.

Applicants who meet the statutory requirements are permitted to take the SBTP examination, which is given in April and in November. On both occasions, the examination is administered only in the city of Jacksonville.

The applicant receives an informative leaflet which describes what the test covers and provides samples of the answer sheet and the information grid. The examination is administered in two sessions (two hours in the morning and two hours in the afternoon) by Nursing Board personnel. All answer sheets are sent to the National League for Nursing in New York City for scoring.

The candidate is informed of his score, as is his training institution. If a candidate fails, he may take the next examination. If he fails three times, he must pursue a course of study. This does not necessarily mean returning to school since the Board may approve a tutorial program of home study under the supervision of an RN or an LPN in his area.

Examination Results and Licensing Volume in Florida

In 1966-67, 854 applicants took the Practical Nursing Examination; 799 passed, and 55 failed, for a fail rate of 6%.

Presently, there are 12,378 Licensed Practical Nurses in the State of Florida, of which about 10,000 are actually practicing.

(c) The Licensing of Practical Nurses in Illinois

The Illinois Nursing Act

The Illinois Nursing Act was passed by the legislature in 1951 and most recently amended in 1966. This Act sets forth the provisions of licensure for both professional (RN) and practical (LPN) nurses. The Department of Registration and Education, within which all occupational licensing in Illinois is conducted, administers the Act under a set of rules and regulations it has compiled to accompany and clarify the law. The Department has interpreted the Act as mandating the licensing of all practical nurses, thereby excluding non-licensed individuals from performing the functions of a practical nurse within the State.

The Committee of Nurse Examiners

This Committee consists of seven members appointed by the Director, with the approval of the Governor. Nurse Examiners must be registered professional nurses holding a Masters' degree. No practical nurses sit on the Examining Committee, although at least two of the seven professional nurses must be actively engaged in practical nurse education. In addition to the Committee, the Director appoints an Advisory Council of eight members, which meets annually, to "...consult with the Committee and the Department concerning administration of duties and formulation of policies under this Act." (Illinois Nursing Act)

Licensing Requirements

Candidates for licensure must meet the following requirements:

- Be at least 18 years of age
- Be of good character
- Be citizens; declare their intention to be a citizen; or take the loyalty oath in lieu of citizenship
- Have completed 10th grade or its equivalent
- Have completed a one year program in an approved school of Practical Nursing
- Have passed the SBTP examination

Although Illinois does not have any formal reciprocity agreements, it does grant licenses by endorsement to out-of-state applicants who have passed the SBTP examination with a score of 350 or higher and who submit evidence of education that is substantially equivalent to that required of Illinois residents.

Examination Results and Licensing Volume in Illinois

During 1967, 1,432 Illinois candidates took the SBTP examination for the first time. Of this group, 8% failed to pass the test. A smaller group of candidates (143), who were repeating the exam, experienced a fail rate of 50%. In 1967, 1,387 licenses were issued by examination. An additional 284 licenses were issued by endorsement, yielding a total of 1,671 new licenses issued in Illinois during 1967. At the end of 1967, there were 14,171 licensed practical nurses in Illinois.

(d) The Licensing of Practical Nurses in New York

The State Board of Nursing Examiners is in the Division of Professional Education of the New York State Department of Education (see table 1, page 18). The Board consists of fifteen members, appointed by the Board of Regents for five year terms. Eleven members are RN's, and four members are LPN's. Each must be licensed, a citizen, a resident of New York state, and have had at least five years of licensed experience prior to sitting on the Board. RN vacancies on the Board are filled from a panel of nominees submitted by the New York State Nurses Association. LPN vacancies are filled from nominees suggested by the Practical Nurses of New York, Inc. Each group is asked to submit three names for each vacancy, as it occurs.

The State Board of Nursing Examiners is responsible for setting the licensing examination for both RN's and LPN's. Since 1950, it has participated in the SBTP Program. The actual administration of the test is handled by the Division of Professional Education, the Division which processes credentials and evaluates education and experience of the out-of-state applicants, though the Board establishes the passing grades (a standard score of 350). The examination is given twice each year at five centers throughout the state.

Requirements for Licensure

In order to take the examination, a candidate must have completed a minimum of 1200 hours of instruction and practical experience in an accredited school of practical nursing. There are approximately 100 such schools in New York State. Forty-one of these are located in high schools (only 11th and 12th graders may take the program); 11 are adult education programs; 19 are in hospitals; and 32 are operated under the Manpower Development Training Act (MDTA).

Applicants must have completed the 8th grade or its equivalent, be 18 years of age, be citizens or have declared their intent, and be of good moral character.

Examination Results and Licensing Volume in New York

During 1966, the State Board of Nursing Examiners examined 3,467 applicants for licensure. About one-seventh of this group were retaking the examination. The fail rate for those taking it for the first time in 1966 was 6%; it was 59% for those who were retaking the examination. Combining the two groups yielded an overall fail rate of just over 13%. The highest mean score on the examination was earned by candidates who received their training in Adult Education Programs. The lowest mean score was earned by those who had studied in high school programs (nearly half of the accredited programs in New York State are in high schools).

Reciprocity

New York State has no formal reciprocity agreements with other states regarding Practical Nurses, however in-migrants may be licensed by endorsement if they were previously licensed in a state with requirements similar to those in New York State at the time licensing took place. Because comparisons must be made between the out-of-state training programs in-migrants pursued and the New York State Program, it may take two to six weeks for such applicants to obtain temporary permits enabling them to practice until a final decision is reached on their application for licensure by endorsement. In 1967, there were 321 licenses issued by endorsement. As might be expected, the largest numbers came from nearby states: Massachusetts 25; New Jersey 31; Pennsylvania 53.

A serious problem has recently been created by the New York State Department of Health, which has ruled that only practical nurses who were licensed by examination may be in charge of a floor in a nursing home or hold similar positions of responsibility. There are in New York approximately 12,000 practical nurses who, in 1950, obtained their licenses under the "grandfather clause" and were not examined. This group constitutes more than one-fourth of the total number of LPN's in the State. Many of these nurses hold responsible positions, especially in nursing homes, and have found themselves in a position of losing their jobs if they could not become licensed by examination, as the Department of Health now requires. The Division of Professional Education is endeavoring to establish a training program to enable these nurses to pass a special examination, thereby meeting the Health Department's requirement.

(e) The Licensing of Practical Nurses in Texas

The Vocational Nurse Act

The Vocational Nurse Act was first passed in 1951 and was most recently amended in 1963. It is permissive in that persons may practice as vocational nurses without licensure, but may not call themselves Licensed Vocational Nurses (LVN). As in California, practitioners actively seek licensure and employers give preference to applicants who are licensed.

. . . .

The Board of Vocational Nurse Examiners

The Board of Vocational Nurse Examiners in Texas is a nine member board made up of professional medical personnel, six of whom must be Licensed Vocational Nurses in Texas.

The law requires the Board to meet twice each year (though it usually meets three or more times per year, for an annual average of about 12 meeting days). Board members receive compensation of $20 per diem plus expenses. Full Board meetings are ordinarily held during the three examination sessions annually. Special meetings and committee meetings are held in addition to the regularly scheduled meetings.

The Board employs a staff of seven to handle the daily administrative routine. The Executive Secretary is considered the office manager and supervises the operation of the agency. She has working under her supervision a Director of Training and an Associate Director of Training (both RN's, responsible for supervising schools), a Licensing Supervisor, a Bookkeeper, a Stenographer and a Clerk. In addition, seasonal help is employed to assist during the annual renewal period and provision is made for the employment of an investigator if needed.

The Board examines and licenses candidates under the provisions of the law. In addition, it accredits qualified training schools, issues annual license renewals and holds hearings, revoking licenses "upon just cause."

Licensing Requirements in Texas

Candidates for licensure as LVN's in Texas must be 18 years of age, have completed two years of high school or its equivalent (this is reported to be interpreted liberally) and have completed a twelve month course in an approved school of vocational nursing. In addition, they must be U. S. citizens (or have declared the intention), be literate in English, and be of good character. Application forms must be submitted at least 30 days prior to the date set for the examination which is given three times a year. All examinations are held in Austin.

The Examination

The examination currently used for licensing vocational nurses is developed by the Board with assistance from the directors of accredited programs in the State. The Board participated in the SBTP Program at one time, but dropped out because it was the feeling of the Board that the scarcity of registered nurses in outlying areas of the State imposed added responsibility on practical nurses. For example, they might have to perform tasks not ordinarily assigned to practical nurses, such as the administration of medication. This is the main reason given by the Board for continuing to use its own examination over the past 14 years, rather than the SBTP examination.

The decision to participate in the SBTP examination program was made primarily to ease the transfer of Texas' practitioners should they desire to move. The fact that no other state would accept the Texas examination in lieu of the SBTP created a hardship on out-migrants. For several years, nursing educators have encouraged students to take the SBTP examination in order to meet out-of-state requirements should they move elsewhere. Beginning in October, 1968, Texas will utilize the SBTP examination.

In-migrants to Texas have experienced almost no difficulty in getting licensed. In 1967, 98% of all out-of-state applicants were licensed by endorsement without having to take the Texas examination.

Licensing Volume in Texas

During 1967, 3045 applicants for licensure took the examination developed by the Texas Board. Of this group, 342 failed to pass the examination for a fail rate of 11%. The 2703 candidates who passed the examination were licensed by examination and 220 were licensed by endorsement, making a total of 2922 new licenses issued during 1967. The Board renewed 31,577 licenses during 1967 in addition to these new issuances.

3. The Licensing of Plumbers

The licensing of plumbers, plumbing contractors and plumbing inspectors will be discussed in this section of the report.

Unlike the occupations discussed previously, plumbers are licensed at the municipal as well as state level. While the extent of such licensing could not be determined within the context of the present study, it is clear that local licensing is a factor that must be given careful consideration in any comprehensive treatment of the impact of licensing on manpower supply.

In this section the licensing of plumbers will be described as it operates in two states (Illinois and Texas) and in two municipalities (Hillsborough County and Jacksonville, both in Florida).

(a) The Licensing of Plumbers in Illinois

Licensing of Plumbers in Illinois is administered by the Department of Registration and Education. The Illinois Plumbing Licensing Law, was first approved in 1953 and most recently revised in 1964. It is mandatory and requires that all apprentices be registered and all plumbers be licensed in order to practice in the state. Municipalities of over 500,000 population may license plumbers by ordinance (so long as the requirements are substantially the same as those in the state law); those licensed by ordinance may practice anywhere in the State. Chicago is the only city in Illinois now exercising this option.

The Illinois State Board of Plumbing Examiners

The Illinois Plumbing License Law specifies that the Illinois State Board of Plumbing Examiners shall consist of five licensed plumbers designated "from time to time" by the Director. In making these appointments, the Director considers the recommendations of three associations concerned with plumbing in the state: The Associations of Master or Contracting Plumbers, the Associations or Unions of Journeyman Plumbers, and the Associations of Retail Plumbers.

The law directs the Board of Plumbing Examiners to: prepare the subject matter for the examinations, suggest rules governing examinations and hearings, hold hearings, submit administrative recommendations to the Director, grade all tests and examinations (reporting results to the Director), and "perform such other duties from time to time described by the Director." For performing these functions the members of the Board are paid a per diem of $25 per day plus expenses.

The Director's responsibilities complement those of the Board. The law specifies that he shall prepare and handle application forms, prepare and issue license certificates, prescribe rules and regulations, administer the examinations (with the aid of the Board), assess the required licensed fees, maintain records, and prescribe rules defining curricula in approved courses of instruction in plumbing.

Requirements for Licensure

1. Apprentices

The only requirements for licensure as a plumber's apprentice are that he be 16 years of age, be employed by a licensed plumber (submitting a notarized form verifying these facts), and pay the $5 registration fee. As noted above, the law specifically prohibits the employment of a person as a plumber's apprentice who is not registered with the Department of Registration and Education.

2. Journeyman Plumbers

In order to be eligible for examination to become a licensed plumber, an applicant must submit evidence that he has worked as a plumber's apprentice for at least five years preceding the date of his application, or that he has successfully completed a course of instruction in plumbing, sanitary engineering, or plumbing engineering approved by the Board. In addition, he must submit evidence that he is a citizen of the United States (or has declared the intention to become one) and must pay the required examination fee.

The Examination

The law specifies that the Director, with the aid of the Board, shall:

> "...prepare and give uniform and comprehensive examinations to applicants for plumbers' licenses which will test their knowledge and qualifications in the planning and design of plumbing systems, their knowledge, qualifications, and manual skills in plumbing, and their knowledge of any minimum code of standards relating to fixtures, materials, design and installation methods of plumbing systems, which may be promulgated pursuant to the Illinois Plumbing Code Law..."

The examination consists of three sections:

1. The written examination consists of 25 short answer (essay) questions drawn from city and state plumbing codes in Illinois.

2. In the practical examination, the candidate has the option of working either with lead or copper and cast iron. He must provide his own tools and equipment.

3. In the third portion of the exam, the candidate is asked to sketch solutions to various venting and installation problems.

The examination questions and problems are prepared by Board members and are not generally tried out before being used in an examination. The present tests were developed in 1964 and revised in 1967. There are four or five forms of the test available for use at any given time.

The examinations are administered four times a year in Springfield, the State Capitol. Each candidate pays a $50 examination fee, which includes his first annual license fee if he qualifies for a license. The practical examination is administered by two committee members who also evaluate the performance of candidates.

While scoring sheets for the various examinations were not available, it appears that the entire examination is graded on the basis of 100 points: 25 points for the written test, 50 points for the practical examination and 25 points for the applied-theory exam. A "75" average over all three parts (with no score below 60) is required for passing. Any portion of the exam that is passed on the first administration does not need to be repeated on subsequent administrations.

Those passing receive their licenses within two weeks. Those who fail are notified by letter and are advised of their specific areas of weakness. A candidate must wait six months and pay an additional $25 fee before he may be reexamined. There is no limit as to the number of times a candidate may retake the examination. The Professional Licensing Supervisor indicated that most applicants pass on the third try.

Reciprocity

During the past year (1967) the Department of Registration and Education sent letters to all other states as an overture to establishing reciprocity. All but one state refused, in one way or another, to enter into a reciprocal arrangement with Illinois.

The rules and regulations under which the Illinois Plumbing License Law is administered state that an applicant who is a registered or licensed plumber in another state may be granted a license in Illinois, without examination, if he meets two requirements:

1) "That the applicant is at least 21 years of age, of good moral character and temperate habits, a citizen of the United States."

2) "That the requirements for the registration of licensing of plumbers in such other states, territories, country or province were, at the date of the registration or license, substantially equal to the requirements then in force in this state."

However, current practice in the department is to require all persons seeking reciprocity to take the plumbing examination in Illinois (presumably because the requirements in the states from which they are transferring are not "substantially equal.") Five years of licensed experience in another state satisfies the preliminary requirements for entry to the examination and the required course of instruction is waived for applicants with sufficient experience.

Examination Results and Licensing Volume in Illinois

During 1967 the Illinois State Board of Plumbing Examiners examined 184 candidates. Sixty-two of these candidates failed to pass the examinations and 122 were successful, yielding a pass-rate of 66% on the examination for those who attempted it for the first time. About 30% or 40% of those who retake the examination manage to pass it on the first retake, nearly all are able to pass it by the third retake. These 122 successful candidates became licensed plumbers in Illinois, raising the total number of licensed plumbers to 5,011 at the end of 1967. There were 1,600 registered apprentices in Illinois at this same time.

The volume of new licenses issued annually in Illinois is small relative to the total number licensed. If this volume has remained relatively static over the years, it leads one to believe that as many as 3,500 or 4,000 of the 5,011 currently licensed plumbers in Illinois were admitted under a "grandfather" provision in the law which no longer exists.

The pass rate of 66% is low, but not so low as to be discriminatory. The key factor in the low volume of new licensees was that there were so few new applicants for licensure in 1967 (184). When asked about this, the members of the Board expressed the wish that more young people would choose to enter the occupation. They wanted the investigator to understand that they desired more applicants, and that the low applicant volume was not due to exclusionary practices within the occupation (though the unions do have entrance requirements which must be met before one can become a plumbing apprentice).

When asked about the validity of reports of manpower shortages in the plumbing field, the Board expressed the opinion that these shortages were due in large part to a current building boom, which is bound to drop off in the future. The implication is that any attempt to meet current shortages might result in an excessive supply of trained manpower in future years, when the current need subsides.

(b) The Licensing of Plumbers in Texas

The Plumbing License Law in Texas was first approved in 1947 and has not been revised since then. It was enacted because of the problems encountered by municipally licensed plumbers in moving from one area to another. The law provides for state control of the licensing of plumbers and plumbing inspectors.

The Texas State Board of Plumbing Examiners

The Plumbing License Law provides for a six-member Board, appointed by the Governor for staggered terms of six years each. One of the Board members must have had 10 years of experience as a master plumber and one must have had five years of experience as a journeyman plumber. In addition, one Board member must be a licensed architect, one a sanitary engineer, and two must be building contractors (one a home builder, one a commercial builder).

The Board usually meets four to eight times per year, for which the members receive a per diem of $20 plus expenses (total remuneration cannot exceed $500 annually for any one member). The income from licensing fees supports the activities of the Board and pays the salaries of Board employees.

While the primary responsibility of the Board is the examining and licensing of plumbers and plumbing inspectors, it also employs four inspectors to check licenses throughout the State. Since there is no State Plumbing Code in Texas, the Board does not have any police powers to enforce licensure. State inspectors call infractions to the attention of municipal authorities, who have the power of enforcing local regulations.

Requirements for Licensure

A candidate must be 17 years of age in order to take the journeyman's examination and 18 years of age to take the master's examination. No educational level is specified in the law, although the application form asks candidates to indicate the highest grade completed. There is no health or citizenship requirements in the Plumbing Law. If an applicant admits to having been convicted of a felony, full details are presented to the Board so that a decision may be made regarding the issuance of a license.

Although no set amount of formal experience is required before one is allowed to take the examination, the average amount of experience of those passing was reported to be about six years.

The Examination

A general description of the examination process is contained in an information sheet sent to applicants. The applicant is advised that examinations are conducted Monday through Friday of each week at the examination center in Austin, Texas. Applicants are assigned a specific date on which to appear for the examination. The examination is completed in a single day--between the hours of 8 a.m. and 5 p.m.

A 60 item multiple choice test covers the theory of sanitary plumbing; including such topics as waste vents, gas systems, water supply systems, cross connections, back siphonage, simple physics, and also terms and definitions. Hot water circulation is covered by the use of a chart on which the examinee draws in a gravity type hot water circulation system to supply hot water to fixtures shown on the chart.

The written examination questions were originally obtained by writing the local plumbers' unions and to city examination boards (who were then doing the testing). These items formed the basis of the original 1947 examination and continue to provide the basic format for the present examination. From time to time the Board has hired examination experts to perform item analyses of the written section of the examination. The most recent analysis was made in 1954 by a doctoral candidate at the University of Texas.

The performance examination consists of two parts:

1. Shop work consisting of using tools in bending and wiping lead; measuring, cutting, reaming and sweating copper pipe; bending and flaring copper tubing; measuring, cutting, reaming and threading galvanized pipe; measuring, cutting, and caulking soil pipe; adjusting a gas burner and identifying certain gas controls. The Board furnishes all necessary tools and materials, except work gloves.

2. The examinees' ability to lay out and install a sanitary waste and vent system is tested by the use of a miniature house which is one-fifth actual size and has miniature pipe and fittings, also one-fifth actual size. The examinee is given a plan and instructed to order the necessary materials. His order is filled from a nearby stock room and he proceeds to plumb the house. Applicants for a journeyman's license install the plumbing in a one story house, while applicants for the master's license install plumbing in a two story house.

In administering the examinations, the Board strives to minimize the reading load, since it is felt that a plumber does not need to be able to read or write. To implement this concept, the Board provides for oral administration of the written examination. In addition, they employ a Spanish-speaking interpreter to assist applicants who are not proficient in English but who do speak Spanish.

Applicants for licensure as plumbing inspectors are required to take only a written examination. These examinations are given once a month, since the candidate volume in this area seldom exceeds 60-80 per year.

The fact that all examinations are given in Austin has involved many complaints because of the time and cost involved in travel. However, the Board feels that it can best implement the requirements of the law--that examinations be "uniform and reasonable"--by holding all examinations in a single location.

Examination Results and Licensing Volume

The Texas Board of Plumbing Examiners conducted 1,030 examinations in 1966. Since 1947, the applicant volume has fluctuated between 800 and 1,500. About one-third of the examinees are for the master's license and two-thirds for journeyman's status. In 1966, 73% of the applicants for the master's license passed and 61% of the journeyman's candidates passed (total qualifying was 696). Data were not available as to how many of those passing did so on the first trial, and how many on subsequent retakes.

(c) The Licensing of Plumbers in Hillsborough County, Florida

Prior to 1964, the four municipalities in Hillsborough County each required separate licenses for general contractors, electrical contractors, plumbing contractors, and heating and air conditioning contractors. In 1964, legislation was enacted establishing a joint licensing board for the Country.

Board members are appointed by the governing bodies of the participating communities. For the plumbing contractor examination, the Board consists of two master plumbers, two journeyman plumbers, and one Health Department representative.

In addition to licensing plumbing contractors, the Board also licenses journeyman plumbers. It was pointed out that while the master plumber (or plumbing contractor) reviews the specifications, makes the bid, and lays out the job, he may never go near the work site. For this reason the journeyman must be licensed for it is he who does the actual work.

Requirements for Licensure

It usually takes five years of apprenticeship to qualify for the journeyman's license and five additional years to qualify for the master plumber's license. However, the Board may waive part of this time requirement if the experience offered is deemed adequate.

The application form used for contractor and journeyman licensing covers education and work experience, with special emphasis on the latter. It also requests names of "endorsers." While no instructions are provided for plumbing license applicants, the instruction for general contractors calls for two letters from other general contractors, a letter from a bank, a letter from a supply house, and a letter from "a person acquainted with you for at least one year."

The Examination

Until recently, the Board used examinations prepared by the H. H. Blcok Company of Gainesville, Florida. Mr. Block was formerly Dean of the Construction Technology at Florida State University. At the request of various Florida municipalities, he and members of his staff prepared examinations that were used by Boards to license general contractors and specialty contractors (e.g.: plumbing, electrical, etc.). The municipality paid $50 for the use of the first examination and $5 for each additional examination. Examination sheets were identified by number only. These were scored by the Block Company. According to one informant, about 80% of Florida's municipalities currently use Block examinations. He noted that those exams were quite general in nature to avoid building code conflicts.

The Hillsborough County Board was not satisfied with the Block examinations. Although the General Contractors' Examination was considered very good, the Board felt that the Electrical Contractors' Examination was unfair. Only one applicant was able to pass in three years. Evidentially, the exam was prepared by electrical engineers and was too theoretical for the small contractors. As a result, applicants were taking it five or six times before they could pass. On the other hand, the plumbing examination was considered too easy.

The Board now makes its own examinations. Committees of three to five people are appointed to make up an examination. These are busy contractors, so they usually go through old examinations and pick out questions that have been used in the past. They have a pool of 300 questions to draw from. Occasionally they make up new questions to replace those that became obsolete. The test is not reviewed by anyone. The committee turns the questions over to a typist who prepares the stencil.

Examinations are administered four times a year. Each answer sheet is scored by three Board members. Sheets are identified by number only. If Board members disagree with the answer that was chosen by the committee, they may grant credit for other answers as well. If the Board finds that too many people miss a question, they may omit the question from the test. This is done, according to the Board Secretary, "so as not to penalize the common man."

The passing grade is set at 75. If an individual scores between 69 and 74, he may be given an additional test on the local building code to allow him to bring his score up to 75.

The contractor examinations are of the open book variety. The applicant may bring reference materials, including the building code, for use during the examination. The exam is said to be very practical, covering the "things a contractor should know." This includes: plans and specifications, estimating, materials, equipment, construction methods, safety, code requirements, inspection requirements, etc. If an applicant fails, he may request a review within 30 days. Two members of the Board will meet with the applicant to go over the examination with him and advise him "where he went wrong."

The applicant pays the examination fee only once, and is entitled to take the test up to three times for the same fee. If he fails three times, he must wait a year before applying again. This is set by policy not by law.

Reciprocity

Hillsborough County has worked out reciprocity with many nearby counties and municipalities; also with some major cities, e.g. Chicago. However, some Florida municipalities will not grant reciprocity. A prime example is Brevard County, near Cape Canaveral, which seeks to exclude contractors from other parts of the State.

Reciprocity in Florida will be facilitated by implementation of statewide licensing of general contractors. Such licensing will become effective on an optional basis in February, 1969. The law was passed at the request of the contracting industry because the existing patch work pattern required large contactors to be licensed in dozens of municipalities. Under the law, a contractor who has a State license may work anywhere. However, those contractors who wish to confine themselves to a given locality may continue to operate under local licensing laws as at present.

It was the opinion of one informant that the statewide general contracting license was merely the first step. He predicted that optional licensing for plumbing, electrical, and heating and air conditioning contractors would soon be forthcoming.

Since the new general contracting licensing program was not yet in operation at the time the field study was conducted in Florida, only a few details about the program were available. The program is administered by the Construction Industry Licensing Board, 129 W. Jefferson Street, Tallahassee, Florida. The fee for certification is $150.

Volume of Examinations

The Director of the unified examining program indicated that information relating to applicant volume, pass/fail rates, etc. was not readily available and that it would have to be reconstructed from minutes of the Board. He promised to send the information to the investigator. To date, he has not done so nor has he acknowledged letters requesting the information.

No data are available regarding the number of minority group applicants, pass/fail rates for minority group members, or the number of minority group members who have been licensed.

(d) The Licensing of Plumbers in Jacksonville, Florida

Jacksonville does not license building contractors, but does license plumbers, electricians, and welders.

The Plumbing Board consists of three members who serve one year terms. The Board consists of the Chairman of the City Board of Health, a Master Plumber, and a Journeyman Plumber. The City Plumbing Inspector is Chairman of the Board. He votes only to break ties.

The law defines a master plumber as one who assumes responsible charge and direction of other persons in the installation of plumbing. The journeyman is defined as one who performs the manual work of installing plumbing under the direction of a master plumber.

Requirements for Licensure

There are no age, educational or experience requirements specified in the law or in Board regulations. However, the application form for both journeyman and master plumbers licenses call for age, height, and weight, where trade was learned and how long an individual has been engaged in the trade. Applicants are required to be citizens or declare their intention. The journeyman applicant pays a fee of $15, the master plumber applicant pays $25. Fees are non-returnable.

The Examination

The master plumber examination is given twice a year in March and September. The journeyman examination is given four times a year--January, April, July, and October. Applicants are notified one week in advance of the time and place of the examination.

The examination consists of three parts:

1. Performance: A problem involving bending and wiping lead is given "to test the applicant's competency in the actual performance of plumbing work." The Plumbing Inspector acknowledged during the interview that the wiping of lead was declining in importance since most plumbing work now involved copper. He indicated, however, that the Board considered lead wiping a good test of "craftsmanship."

2. Drawing and reading drawings: This test is intended to assess "the applicant's practical competency in planning and layout work and his understanding of plans." The test consists of a number of toilet and vent drawings. The applicant is required to show how he would lay out and install pipes for a wet vent, a common vent, or a loop vent.

3. Written questions: These are intended to test the applicant's practical knowledge of plumbing, house drawings, plumbing ventilation, and plumbing regulations. The exam consists of 50 essay type questions, which are drawn from a pool of approximately 1,000 questions taken verbatim from Questions and Answers on the Practice and Theory of Sanitary Plumbing, published by Starbuck. The key used by the Board in grading papers refers to the answers found in this book. Board members check to see how closely the answer given by the applicant approximates the one given in Starbuck and may give either full or half credit for an answer.

Applicants are not permitted to consult any books or materials during the exam, nor are they allowed to take any scratch paper from the room. Each test has 100 as a perfect score. A grade of 75 is required to pass. If at any time the Board determines that an applicant has failed to pass any of the three parts (e.g.: wiping lead) he is disqualified from continuing with the examination. He must pass all three parts during the same examination session in order to qualify. If he fails any part, he must repeat the entire test.

The master plumber applicant is not required to demonstrate lead wiping if he has previously done so. Part II of the master plumber examination (Drawing) takes a full eight hours to complete. The applicant is given a set of drawings (there are six such sets available) for a five story building. He must translate the specifications isometrically to another work sheet. This involves a great deal of fine detail.

An applicant who does not pass has 90 days within which to request permission to examine his test papers. The Building Inspector will usually go over the paper in detail with an applicant to explain why credit was not given for his answers to specific questions.

The Building Inspector indicated that some applicants visit his office prior to the examination to show him drawings they have done by way of preparation. He criticizes these drawings and explains how they should be modified to meet Board requirements. This "service" is not publicized. Teachers in Vocational Schools seem to be thoroughly familiar with the type of questions asked and do a good job of preparing their students, according to the Building Inspector.

Reciprocity

There is no reciprocity practiced at the present time. Everyone must take the test before he can do plumbing in Jacksonville.

Examination Volume

In 1966, 26 applicants took the journeyman plumbers examination, only eight passed. In 1967, there were 18 applicants, eight also passed.

In 1966, ten applicants took the master plumbers exam and only one passed. The following year there were four applicants and one passed.

The Building Inspector volunteered the information that it is not uncommon for an applicant to take the test three or four times before he passes. The first time is regarded by most men as a trial run. It gives them an idea of what is expected of them and how to prepare for the "real thing."

4. Licensing of Ophthalmic Dispensers or Dispensing Opticians

Ophthalmologists or oculists are medical doctors, specializing in diseases of the eye. They write prescriptions for eye glasses, spectacles, contact lenses, and other optical devices, which are then filled by a dispensing optician.

Optometrists are persons licensed to conduct eye examinations, to prescribe glasses and other optical devices, to fill prescriptions and to fit glasses, etc. to the wearer.

The Dispensing Optician is limited by law to the grinding and sale of eye glasses and other optical devices. He is not permitted to examine eyes or to write prescriptions. He fills prescriptions written by ophthalmologists, oculists, or licensed optometrists. When a lense is broken, he may determine the prescription from the fragment and grind a replacement lense as if he were filling an original prescription.

Only two of the five states visited (Florida and New York) were currently licensing this occupation. Licensing legislation covering dispensing opticians had been introduced in Texas in 1967, but failed to pass primarily because of strong opposition from optometrists.

(a) The Licensing of Dispensing Opticians in Florida

Legislation relating to the licensing of dispensing opticians in Florida went into effect on June 8, 1949. It established a five member Board, appointed by the Governor for four-year staggered terms. All members must be licensed dispensing opticians with at least five years of experience. The Board meets about six times each year. For these meetings, members receive $10 per diem, plus travel expenses. The Secretary-Treasurer, who is a Board member, receives $500 additional compensation. He, in turn, employs a secretary to handle correspondence and maintain records.

The Board is highly autonomous. Apart from notifying the Governor of its agenda and the names of passing and failing applicants, it has little contact with the State. Although it operates on income derived from fees, the Board's budget must be approved by the legislature every two years and by the Cabinet between legislative sessions.

The Board endeavors to police the field of optical dispensing. Its regulations prohibit any diagnosis or prescription by licensed dispensers.

Even the display of refracting equipment is prohibited. Its regulations also prohibit dispensing opticians from operating in an establishment where the gross sales of other than optical merchandise and hearing aids is more than 25% of the total. The regulation states that "It is not the intent of the Board to see this skillful trade or occupation of Dispensing Opticians used as a loss-leader to encourage the sales of other types of merchandise or skills." Other regulations prohibit advertising, which in the opinion of the Board would "...tend to mislead the public or lower the trade or occupational standards..." Such regulations suggest that the Board also serves as a quasi-official trade association and may use its police powers to restrict competition.

Requirements for Licensure

Applicants must be 21 years of age and of good moral character. There is no minimum educational requirement. Citizenship or declaration of intent are required.

An applicant may qualify in one of two ways.

1. Completion of 850 hours in a recognized school of optical dispensing. There are only three such schools in the United States: Erie County Technical Institute (Buffalo), Ferris Optical School (Detroit), and Los Angeles School of Opticianary.

2. Two years of experience of "a grade and character satisfactory to the Board" under a dispensing optician, a licensed physician or a licensed optometrist.

The Board may also accept a combination of formal training and experience at its discretion. Time spent in a school of opticianary is to be considered as part of the apprenticeship period.

The examination fee of $25 must accompany the application and is non-returnable.

The Examination

The law specifies that the examination may cover the following topics:

1. Mathematics and Physics
2. Ophthalmic materials and laboratory techniques
3. Ophthalmic optics and practical subjects
4. Ophthalmic dispensing
5. Florida law

The questions are prepared by Board members. Many questions are reused since they involve basic terminology. Questions are frequently "borrowed" from examinations from other states, especially New York. Some of the questions are multiple-choice; others are of the essay type. Of the latter there are usually 20. The value of each question is established by the number of questions in the section. Board members grade all examination papers using a master sheet. Each exam is graded only once. Since tests are given only once a year, only one form is developed each year, with only slight modifications from year to year.

The candidate receives no briefing about the examination except for the information contained in the Law. He is sent a copy of the Law when he registers. If he inquires about the test, he is advised he will be expected to "neutralize lenses", "fit glasses", etc.

The examination is generally given in the city where the Secretary-Treasurer resides and has been held in Tampa for the past 14 years. It takes 1½ days, (Saturday morning to noon Sunday). The written test requires half a day. The practical exam requires a full day.

The practical exam involves the following tasks:

1. Neutralize lenses
2. Measure and caliper lenses and frames
3. Identify a series of different types of spectacle lenses
4. Fit four or more clients drawn from diverse occupations (e.g., barber, housewife, bulldozer operator, crane operator).

Oral questions are given during the practical examination. For example, a candidate might be asked how he would fit lenses for a client with cataracts.

During the examination, one judge handles the neutralizing task, while four other judges observe the candidates on the other tasks. Usually two judges make independent evaluations of each applicant's performance.

Applicants are not advised of their precise score--merely that they passed or failed. There is no set passing score. According to the Secretary-Treasurer, the Board usually sets it "somewhere between 70 and 80."

If a candidate fails, he may see a Board member or the Secretary-Treasurer who will advise him regarding areas of weakness. For example, he may explain the degree of accuracy expected during the neutralizing tests.

Reciprocity

Florida has no reciprocity agreements. Every applicant must take the written and practical tests.

Examination and Licensing Volume

In 1967 there were 78 applicants; in 1966, there were 65. About one third of those examined each year are repeaters. According to the Secretary-Treasurer, a recent analysis showed the pass rate to be 36%. He explained that the high failure rate was due to the fact that opticians are not required to teach apprentices anything. In fact, some opticians advise apprentices that they don't need a license to work in the field, hence apprentices don't bother to get a license. Most applicants are totally unprepared for the theoretical aspects of the examination.

No records are available regarding minority group membership among licensed optical dispensers. The Secretary-Treasurer stated that a number of dispensing opticians from Cuba had been licensed and that there was one Negro in Miami who had been licensed under the grandfather clause. He did not recall any Negro having taken or passed this test in the past 14 years.

When asked about language problems, the Secretary-Treasurer indicated that the Cubans who had been licensed had all been English-speaking. He said the Board had never had a request to have a test translated or to permit the use of an interpreter.

According to the Secretary-Treasurer, there is no shortage of dispensing opticians in Florida. There are presently 175 ophthalmologists in the state; 40% of them sell glasses to their patients. This means that approximately 400-450 licensed opticians must share the prescriptions written by the 100 M.D.'s who do not have their own optical dispensing facilities. Most optometrists sell glasses to their patients, hence they do not contribute significantly to the business of the dispensing opticians.

(b) The Licensing of Ophthalmic Dispensers in New York State

Ophthalmic dispensing is licensed by the Division of Professional Education, in the State Department of Education. The Law became operational on July 1, 1947, at which time those practitioners with at least three years of experience were covered under a "grandfather clause."

Advisory Board

The Advisory Board consists of five persons appointed by the Commissioner of Education. Three of the appointees are required to have practiced ophthalmic dispensing for at least ten years. The fourth appointee must be an ophthalmologist and the fifth a licensed optometrist. Board members serve three year terms and may be reappointed to not more than two additional terms. The Secretary of the Board is appointed by the State Board of Regents.

The Advisory Board meets about seven times a year to prepare written examinations, to review results of the written examinations, and to administer the practical examinations. It should be noted that the Board is by law advisory, though in practice it is relatively free from external control.

Requirements for Licensure

To be eligible for licensing, an individual must be at least 21 years of age, of good moral character and a high school graduate (or equivalent). A candidate under age 21 is eligible to take the examination, but his license may not be issued until after his 21st birthday. He must have completed (1) a one year course of study in an approved school of ophthalmic dispensing or (2) had at least one year of satisfactory training and experience in ophthalmic dispensing under the supervision of an ophthalmic dispenser, physician, or optometrist. Because of the unavailability of formal training schools, most applicants choose to enter the field via the "experience only" route. Citizenship is not required, although a question regarding citizenship appears on the application form.

The examination fee of $40 includes the cost of the license if the examination is passed. The candidate who fails any subject must pay a $15 reexamination fee. If a candidate fails to show up for an examination he forfeits his fee.

The Examination

The written examination is prepared by the Advisory Board and is edited by the Bureau of Higher and Professional Educational Testing. It is administered twice annually in New York City, Buffalo, Syracuse, and Albany.

The written examination consists of six subtests, for which the total testing time is 15 hours, spread over three days. The six subtests are:

1. Mathematics (1½ hours)
2. Physics (1½ hours)
3. Ophthalmic materials and laboratory (3 hours)
4. Ophthalmic optics (3 hours)
5. Ophthalmic dispensing (3 hours)
6. Contact lenses and anatomy and physiology of the eye (3 hours)

In order to pass the written examination, candidates must attain an average score of 75% over the six subtests, with only one allowable score between 65% and 75%.

About three days after completion of the written examination, candidates are expected to report for a performance examination which is held in Buffalo and New York City. All candidates must take this portion of the examination, even though many will not have passed the written portion. It is administered by the three ophthalmic dispensers on the Board, two in one of the locations and one in the other. Four or five experienced licensed ophthalmic dispensers from each of the two cities are hired as "assistant examiners" and assist the Board members in the administration of the performance examination.

The performance examination consists of having the candidate actually perform tasks which would be required of him if a patient were to request that he fill a prescription. He must demonstrate to the examiners a familiarity with the machines found in the laboratory of an ophthalmic dispenser. He is asked to interpret the prescription to the examiners and to fit and adjust spectacles after first inserting the lenses into the frames. He is expected to demonstrate knowledge of how to use the equipment necessary to fit contact lenses, though he need not actually fit them.

During the performance examination the examiners ask the candidates questions, playing the role of patients. The candidate is rated on his answers, with special emphasis on the ethics of his answers. (For instance, he should not prescribe for the patient.) All scoring during the performance examination is subjective.

Reciprocity

New York State has no formal reciprocity agreements with other states. However, between fifty and sixty in-migrants licensed in other states are granted licenses by endorsement each year. The Division of Professional Licensing Services reviews the preparation of the candidate and the nature of the examination given by the state in which the applicant was licensed. If the requirements and examination are substantially similar to those of New York State, a license is issued.

Out-of-state applicants who take the New York State examination generally have less difficulty than New York State residents, since the latter have no formal preparation while the former frequently have had some formal training.

The Executive Secretary feels that a national licensing program in ophthalmic dispensing would be highly desirable. He called attention to the fact that the National Board of Opticianary conducts examinations as a qualification for membership. The examination is administered to applicants at the time of the National meeting of the organization.

Candidate Volume

In one of the two administrations in 1967, 108 candidates were examined; of these, 57 were taking the examination for the first time while 51 were repeaters. Only 21 candidates passed the examination and were licensed. This represents a 19% pass-rate, which is relatively consistent from examination to examination. Approximately 200 applicants are examined annually. About 40 new licenses were issued from that group.

The Secretary of the Board explained that until recently apprentice trainees were required to have had college level algebra and geometry. This requirement has since been dropped, hence many students now enter apprenticeship with insufficient background to handle the mathematics called for by the examination. They have little chance of passing. It was the Secretary's opinion that many optical shops use apprentices as a source of cheap labor. The State issues a two year permit to each trainee, which may be renewed for an additional two year period. The employer has no responsibility for training the apprentice in the theory of optics (physiology of the eye, etc.), without which the apprentice has little chance of passing the examination. It was the Secretary's view that a minimum of two years of college preparatory level mathematics should be required of all apprentice applicants. About the only way an applicant can effectively prepare for the examination is to pursue a formal training program concurrent with his apprenticeship. Unfortunately, there is only one approved school of optical dispensing in New York State (Erie County Technical Institute). An associate degree program in this area is scheduled to begin at New York Community College in the fall of 1968.

5. The Licensing of Dental Hygienists

Dental hygienists are licensed in all fifty states and the District of Columbia. This occupation is one in which it was difficult to determine professional status. The dental profession takes the position that two years of post-high school training is sufficient to produce qualified dental hygienists while the Dental Hygienists' Association is pressing for a four-year educational requirement. The result is that the occupation is one of those which is in the gray area between the professional and non-professional categories as they have been defined for the study.

Because of the difficulty in determining the professional status of dental hygienists, the information on the licensing of dental hygienists in California was obtained from printed reference sources, while the Professional Licensing Supervisor in Illinois and the Executive Secretary of the State Board of Dental Examiners in New York were contacted in person. Information regarding the licensing of this occupation was not obtained in Florida or Texas.

The National Board of Dental Examiners, sponsored by the American Dental Association, regularly conducts National Board examinations in Dental Hygiene during April and July of each year. Additional examination sessions are scheduled if the need arises. Licensing boards in 44 states are currently making use of this examination as a part of their licensing process.

The examination consists of four parts, which must be completed in one day:

I - General Anatomy, Dental Anatomy, Physiology
II - Histology, Pathology, Radiology
III - Chemistry, Nutrition, Microbiology
IV - Pharmacology, Dental Materials, Preventative Aspects of Dentistry

Questions are of the multiple-choice variety and are prepared by twelve test development committees appointed by the Board of Examiners. Test specifications are prepared in consultation with dental hygiene educators and state board examiners. Questions are received from contributors in all parts of the country. These are reviewed and edited by the Test Construction Committee to insure consistency of form and to determine the appropriateness of each item.

The examination is available only to students completing their studies in dental hygiene schools accredited by the American Dental Hygienists' Association and to graduates of such schools. Graduates who are not members of ADHA must submit three letters of recommendation testifying to their ethical conduct: one of these must be from the Secretary of the State licensing board, another from the administrator of the applicant's dental hygiene school, and the third from a dentist employer. The examination fee is $15. No fee is charged for re-examination.

All of the tests are graded on the basis of 100 points, with a score of 75 required for passing. The candidate must retake those tests in which he has earned a score below 75. If he fails to pass on two retests, he is required to repeat all four parts.

The examinations are administered in special centers located in 39 states.

(a) The Licensing of Dental Hygienists in California

Dental hygienists in California are licensed under the Dental Practice Act, which was first passed in 1885. The Act was originally designed to regulate the practice of dentistry in the State, and was amended in 1921 to include dental hygienists.

The California Board of Dental Examiners

The Board of Dental Examiners consists of eight members--seven dentists and one public member. The seven dentists are required under the Law to have practiced five years in the State and may not be members of the faculty of any dental school. The Board meets monthly for business sessions and four times annually to administer examinations.

Licensure Requirements

In order to qualify for licensure as a dental hygienist in California, an applicant must present evidence of having attained 18 years of age, being of good moral character, and having graduated from an approved course in dental hygiene. There are presently five approved courses in California at which dental hygienists can receive training. Graduates of similar programs in other states may take the California examination, if the program has been approved by the Council on Dental Education of the American Dental Association (ADA).

Reciprocity

All out-of-state applicants must take and pass the California examination in dental hygiene though as noted above, ADA approved out-of-state courses are acceptable in lieu of in-state training requirements.

Examination Results and Licensure Volume

The examinations are prepared by the Board of Dental Examiners and are administered at the same times and places as the dentistry examination. The Board is presently awaiting legislation which would permit them to recognize the certificate of the National Board of Dental Examiners. This would be substituted for much of the examining now being performed.

An average of 100 applicants take the dental hygiene examination at each of the four annual sittings. The pass-fail rates range between 90% and 95%, with most of those who fail being from out-of-state.

The 300-400 new licenses issued annually have raised the total number of licensees from 620 in 1954 to more than 2,700 in 1967. There was an 11% increase in license renewals during 1967.

(b) The Licensing of Dental Hygienists in Illinois

Dental hygienists in Illinois are licensed by the Department of Registration and Education under the Illinois Dental Practice Act. The

Act was approved for dentists in 1909 and was amended in 1945 to include dental hygienists.

The Examining Committee in Dentistry

The Examining Committee consists of seven members, all dentists, each of whom has been practicing in the State for at least five years. Committee members are appointed by the Director of the Department of Registration and Education for terms which are of indefinite length. No Committee member may be affiliated in any way with a college of dentistry. The Committee reports to the Director, who may implement its recommendations. (As noted in another section of the report, he has the power to veto committee recommendations.) It meets eight times per year to conduct examinations, approve schools, determine candidate qualifications, and conduct hearings when necessary.

Licensure Requirements

Candidates for licensure must demonstrate that they have completed high school (or fifteen units of high school work), are U. S. citizens or have indicated their intent to become citizens, and have completed two years in an ADA-approved college of dental hygiene. Two Illinois colleges have ADA-approval, with five others currently being considered for approval.

Reciprocity

Illinois practices no formal reciprocity policy with regard to the licensing of dental hygienists. However, the fact that there is ADA approval of colleges of dental hygiene, and that the approval is recognized by Illinois, enables in-migrants to take the examination with no more delay than an in-state applicant experiences.

In addition to accepting out-of-state training in ADA-approved institutions, the Committee waives the written portion of the examination for those applicants who have secured National Board (ADHA) certification.

The Examination

The Committee administers written and practical examinations in dental hygiene twice annually in two locations in the state. The written and practical examinations each take one day to administer.

The examination site for the June administration alternates annually between Loyola University and Northwestern University; the site for the November administration is the University of Illinois. All three sites are located in the northern part of the state.

Those candidates who have not previously secured National Board certification are required to take the written examination, which is over fifteen subjects related to dentistry. They are asked approximately five questions about each subject, in a short-answer essay or true-false format. The subjects are listed in an examination schedule, which candidates receive prior to the examination date.

All candidates must take the practical examination, which consists of treating a patient suffering from sub-gingival inflammation--a relatively common ailment. In addition to performing the prophylaxis, candidates must take, process, mount, and chart full mouth x-rays. They must furnish their own patients (who must have sub-gingival inflammation), along with certain specified equipment for the prophylaxis.

Examination Results and Licensure Volume

Since 1950, the pass rate has ranged between 90 and 100%. In recent years, 75-100 candidates have passed the examination and become licensed annually. There were 711 license renewals in the state during the most recent biennial renewal (1968).

(c) The Licensing of Dental Hygienists in New York

Dental hygienists in New York are licensed by the State Board of Dental Examiners, within the State Education Department.

The State Board of Dental Examiners

The eleven members of the State Board of Dental Examiners are all required to have been licensed dentists in New York for at least three years prior to their appointment. The Board is assisted in its function by an Executive Secretary, who must also be a licensed dentist (and have been practicing in the State at least five years prior to his appointment). The Board constructs and administers examinations, and conducts hearings.

Licensure Requirements

Candidates are required to submit evidence of good moral character, citizenship (or intent), and high school graduation prior to admission to an approved college of dental hygiene. Candidates are permitted to be examined before they graduate from an approved school, but their examination results are held until graduation. If a candidate fails to graduate, the examination results are not negated, but are held, though no license is issued.

Reciprocity

New york does not have a established reciprocity policy with any other states. However, an out-of-state applicant may be licensed by the Department, at the Board's recommendation, if he has practiced for the preceding year and has completed preliminary requirements which are equivalent to those required in New York. Out-of-state applicants can ordinarily become licensed in a shorter period of time than in-state applicants.

The Examination

Since 1964, the National Board Examination has been used as the written portion of the examination required of dental hygiene applicants in New York. The Board may also recommend that the Department endorse out-of-state applicants who have taken other examinations, if it considers them equivalent.

All applicants must take a clinical examination. They must perform an oral prophylaxis for a patient requiring treatment (applicants must furnish their own patients; patients whose teeth do not require prophylaxis will be rejected by the examiners). During the administration of the clinical examination, candidates are administered a short verbal examination lasting about 10-15 minutes. Questions asked during the verbal examination may refer to conditions found within the patient's mouth or to professional service rendered by a dental hygienist. The entire clinical examination lasts 1½ hours.

Examination Results and Licensure Volume

In 1967, the National Board examination was administered to 369 New York applicants. Of these applicants, 320 passed the examination for a pass-rate of 87%. Overall pass-rates for both the written and clinical examination ordinarily range between 90% and 95%. The volume of registrants has risen steadily from 2,290 in 1950 to 6,608 in 1967.

6. The Certification of Psychiatric Technicians in California

California is the only state of the five studied which certifies Psychiatric Technicians. They are certified by the Board of Vocational Nurse Examiners, whose membership and functions are described in detail in the section of the report titled "The Licensing of Practical Nurses in California." It is noteworthy that, of the eleven Board members, two are certified psychiatric technicians.

Psychiatric technicians were first certified in California in 1960. Certification was continued through 1962, when it was suspended for lack of legislative appropriation. The appropriation was not restored until 1966 and, although a small number of certificates were issued, no examinations were held in the years 1963-65. Certification has been, and continues to be, permissive.

Certification Requirements

Candidates must be 19 years of age, of good moral character, citizens (or have indicated intent), and high school graduates or the equivalent. Further, they must have been employed two years of the past five in an approved psychiatric nursing unit. There is currently no formal education requirement, however the two/five year experience requirement will be replaced by an educational requirement on January 1, 1970.

In 1960, when the Board first began certifying psychiatric technicians, it met with various medical and administrative personnel of the fourteen state hospitals (where most psychiatric technicians work) to construct, from job analyses, a curriculum for the training of psychiatric technicians. This meeting has resulted in the approval, during the past year, of thirteen training programs, all in state hospitals. Maintenance of the programs has been difficult because of the inavailability of nurse-educators, who teach the courses. For this reason, about eight of the thirteen approved programs are presently closed.

Reciprocity

Because of the fact that employment is a prelude to certification, rather than certification being required for employment (the law is permissive),it is not necessary for California to have an established policy for certifying psychiatric technicians by reciprocity.

All applicants are already "in-state."

Examination Results and Certification Volume

The examination currently being used is one that was prepared in 1957 by the Education Director of the Department of Mental Hygiene. The Board began using it when they began evaluating candidates for certification in 1960. It is now out of date, having under-gone only minor revisions since 1957. The Board is planning to completely revise the examination during 1968.

The present examination consists of 233 multiple-choice items, which candidates are allowed three hours to complete. A passing score of 140 was determined in 1957, following an item analysis of the original version of the test. During the four years 1960-1962 and 1966, 7,463 candidates took the examination with 7,149 passing, for a 96% pass rate.

Certification volume rose from 1,422 in 1960 to a peak of 5,555 in 1963. After a decline during 1963-1965, the years when the operation was closed, it began to go up again and was at 4,952 in 1966.

7. The Licensing of Clinical Laboratory Personnel in Florida

In June, 1967, a law governing the licensing of clinical laboratory personnel went into effect. The law covers supervisors and technologists at the professional level and technicians and technical trainees at the sub-professional level.

The licensing program will not become operative until an Advisory Committee has been appointed and rules and regulations adopted. Initially, emphasis will be given to licensure of existing clincial laboratory personnel under the "grandfather clause"; when this has been accomplished, licensing of new applicants will be undertaken.

Advisory Board

Responsibility for administering the Act resides with the State Board of Health. An Advisory Board will be appointed by the Commissioner of Health to assist the health agency staff in developing a policy. It will also advise on problems related to licensing and the revocation of licenses. However, final authority lies with the State Board of Health. All appeals will be directed to the Board of Health.

Requirements for Licensure

Requirements for licensure as clinical laboratory technicians may be satisfied in three ways:

1) High school graduate with one year of technician training in a program approved by the Council on Medical Education of the American Medical Association or an equivalent accrediting Board.
2) High school graduate who has served for two years after graduation as a technician trainee in a clinical laboratory with a director at the doctoral level, or in a clinical laboratory providing equivalent training accepted by the Board.
3) High school graduate who has successfully completed an official military medical laboratory procedure course of at least 50 weeks duration and has held at the journeyman's level the military enlisted occupational specialty of Medical Specialist (Laboratory technician).

Technicians will be required to pass a general examination given by the Board to obtain licensure. The Board will probably accept certification by the American Society of Clinical Pathologists (ASCP) in lieu of the Board's own examination. No plans have yet been made for the preparation of an examination, but it is probable that the Board will contract with the Professional Examination Service of the American Public Health Association for this and the other examinations required to implement this licensing program. The tests will be given at least twice a year at a number of central locations in the State.

The license fee for technicians will probably be $5.00. There is also a $2 fee for the registration of Clinical Laboratory Trainees. The registration will not be valid for more than two years.

In addition to the usual information: name, address, birth date, etc., the application form asks whether the applicant has ever been adjudged mentally or physically incompetent; also whether he has ever been convicted of a felony or crime involving moral turpitude.

The Director of the program has indicated that the Board does not seek to use the law to restrict in-migration of competent personnel.

For this reason, it plans to take a liberal view toward reciprocity and toward acceptance of credentials obtained through professional organizations, such as the Registry of the American Society of Clinical Pathologists (ASCP).

8. The Licensing of Electricians in Austin, Texas

The municipal licensing of electricians was investigated in Austin, Texas and was found to have much the same structure and process as licensing at the state level, except for the fact that the volume is much smaller. The most noticeable other difference (probably relating to the small volume) is that the members of the board are much more actively involved in the licensing of individual applicants than are their state level counterparts.

The Licensing and Appeal Board

The city council appoints a seven member board, which is called a Licensing and Appeal Board for the city. Two of the members are city employees--the Chairman of the Board and the Secretary of the Board (who is also the Chief Electrical Inspector for the City of Austin). In addition to these two city employees, there is on the Board one union master electrician, one non-union master electrician, one electrical engineer, one journeyman electrician, and one other person, who is called a "disinterested party". Actually the ordinance calls for five members and the city employees do not vote except to break ties.

When the time comes to replace the members on the board, new members are usually nominated by the board in groups of four or five for each vacant position, and the final selection is made by the city council. This is not always the case--the last member appointed to the board was not nominated by the present board members, but was simply appointed by the city council. There is no set length of term...board members can serve until they retire or pass away. They receive no compensation for their work.

The Board meets monthly. It has its own secretary and paid staff, though all are city employees and work with the board in addition to their regularly assigned duties.

Licensure Requirements

The applicant must first complete an application form. Then he is invited to appear before the Board, after which a date is set for his examination.

In order to take the examination to become an apprentice, a person needs to be 16 years of age, present a recent photograph, and have his fingerprints taken at the local police department. In order to qualify as an applicant for a journeyman's license, he must be 18 years of age and have had four years of experience as an electrician; for a master's license he needs to be 21 years of age with six years of experience. Most master electricians are actually electrical contractors, although some who have masters' licenses are only working as though they were journeymen.

There are various restrictions within the master and journeyman categories, though it is possible to get licenses which are "unrestricted." The unrestricted master and journeyman electricians are, as their title implies, unrestricted in function when on the job and can work on all kinds and types of work. The restricted master and journeyman licenses are of four types. Licensees can only work on their individual type. The four types are "sign", "elevator", "repair service", and "maintenance". Titles for the purpose of licensure read like this: "Restricted Master Sign Electricians", etc.

Reciprocity

Licensees who travel from Austin to either San Antonio or Waco may carry with them a letter from the Inspection Department in Austin signifying that they are licensed under Austin's municipal ordinance. This letter is honored by the other two cities, as are theirs by Austin. In-migrants to Austin must appear before the Board for an interview and pay the required fees.

The Examination

All examinations are written--applicants attempting to obtain a restricted license take a 20 or 25 item test, depending on the category of restriction, while those going for unrestricted licenses must take a 49 item test. The items have different weights toward the total test score...most contribute either one or two points.

The secretary of the board prepares the exams, writes the items, administers them, and scores them. He is a former electrician who has been with the inspection department for nearly 30 years. The board occasionally reviews the items, but the entire responsibility falls on the secretary. Items are not ordinarily pretested, however an effort is made to keep the questions within the range of the normal job requirements. Over the years the secretary has put together thirty sets of questions in the various areas of licensure. Some of the items in some of these sets are as old as nine years--therefore, he is currently revising them.

All cities follow the National Electric Code in addition to their own local codes, so the secretary has drawn heavily from the National Electric Code for the written tests he has constructed. Of course, some of the items are from the city ordinance. Candidates are told ahead of time which articles of the various codes are going to be used in the examination.

The secretary administers the tests each month. The date of administration is usually one week after each monthly board meeting (after the board has given a group of candidates permission to take the examination). The tests are administered in small enough groups so they can be given in the electrical inspector's office in Austin. They are scored by hand...the answer key is made up by using the code from which the items were derived as a reference.

Journeymen must make a 70% on their examination--masters must make a 75% in order to pass. When a score is close to the passing mark, but not passing, it is taken to the board. In nearly all cases the cut-off is adhered to precisely.

If a candidate fails, he must wait three months in order to retake the test; the second time the waiting periods are set by ordinance. A candidate may retake the test as many times as he wishes to do so, but he must continue to pay the examination fee (ranging from $2 for the restricted journeyman's license to $50 for the unrestricted master's license) each time he takes the exam. The secretary will go over the papers with those candidates who fail. In fact, he will go through the code and go through each of the items on the exam that the candidate took, pointing out the answers in the code. Of course, when this candidate is retested he does not get the same test he went over. Answer sheets are retained by the office.

Examination Results

About forty applicants are examined annually and ten or fifteen new apprentices are registered each year. Of the forty who are examinated (and who are attempting to secure either a journeyman's or master's license), about 60% pass. Most of those who fail the first time will pass on the second attempt.

9. The Licensing of Heating and Air Conditioning Workers in Austin, Texas

All three levels of heating and air conditioning personnel are licensed in Austin--the master, the journeyman, and the apprentice. The licensing (which is mandatory) is conducted by a board, called an Appeal Board, made up of five members appointed by the city council of Austin. On this Board are one master heating and air conditioning expert, one journeyman, one layman, and appliance dealer, and a city member (who is the Chief Building Inspector for the City). Members of the Appeal Board are appointed for a period of two years. They receive no compensation for their work. The Board meets as needed, usually about once per month.

Licensure Requirements

No application form is necessary when a candidate decides to take the test. He simply notifies the Board that he wishes to take the test at its next administration. The examination has no preliminary requirements except for the fact that it is conducted in English. Of course, in order to get a bond (as in the cases of masters) one must demonstrate good character.

The Examination

The examination is made up of items which are taken strictly from the heating and air conditioning code. Some of the items are multiple choice, others are direct questions of the fill-in-the-blank type. Masters and journeymen take different examinations.

The masters' test has 50 items, the journeyman test has 30 items. On occasion, the board will allow a candidate to take an oral test if it feels that the format of the paper and pencil test has been confusing to him. However, under ordinary circumstances, oral examinations are not permitted. There is no performance test in this occupation.

Members of the Board write items and the Chief Building Inspector reviews them. Items are changed two or three times a year, and three forms of the test are kept in circulation. A simple item analysis is performed on the short test--if an item is answered incorrectly by a large number of candidates it is considered to be a bad item. In order for candidates to pass the test, they must earn 70%--that is 70% of the items on the examination must be answered correctly.

All candidates who fail the examination are required to go over the examination item by item with the examiner. Those who pass the examination simply pay the license fee and are then licensed to practice. If an applicant fails, he is generally not expected to pay the fee again and waits 90 days in order to retake the examination--usually a different form. After failing a second time he must wait a year. Even for a second failure candidates are not often asked to pay an additional fee.

Examination Results and Licensure Volume

About five per cent of those who enter the examination with past experience fail it. The fail rate is considerably higher if 1) a large number of young people take the examination without prior experience in the field, or 2) those taking the examination have been practicing without a license and have been forced into the examination situation. The board licenses 20 or 30 new applicants each year. There are presently about 100 to 150 licensed heating and air conditioning personnel in Austin.

V THE EFFECTS OF LICENSING

The structure of occupational licensing and the licensing process have been described in some detail for the five states covered by this pilot study. However, it was not our purpose in undertaking this study merely to describe the institution of licensing. For us, description has been a necessary antecedent to an understanding of the ways in which licensing practices may influence the individual who seeks to enter the licensed occupation or who seeks to practice in a locality different from the one in which he was originally licensed.

It is, of course, premature to attempt to generalize on the basis of the limited observations and the even more limited data available at this time. It is not too early to summarize and comment on some of the questions and observations that have surfaced in the course of the pilot study. One way to do this is to trace the path of an applicant from his initial contacts with the licensing agency through the various steps leading to licensure. What effects do these experiences have on his initial decision to seek licensure or to persist in his efforts once he has filed an application? We shall also look at problems encountered by individuals who move to another state or municipality and who must obtain licensure before they can engage in the occupation. which provides their livelihood.

A. Communication between the applicant and the licensing board

Very few boards seemed to make any effort to communicate with applicants in a way that would make it easy for them to understand the requirements for licensing or the procedures to be followed in seeking licensure. Exceptions may of course be cited, but most boards merely send the applicant a copy of the licensing law and requlations promulgated by the board to implement the law. Some boards issue supplementary fact sheets, but these are generally little more than extracts of those portions of the law that pertain to applicants.

It is our opinion that poor communication between boards and prospective applicants poses barriers to licensing, especially for those applicants with less than a high school education. These people are likely to find the law--or even excerpts from the law--incomprehensible. Unless they know of someone who can interpret requirements and procedures to them, they may be discouraged from seeking licensure and may not take steps necessary to qualify. In one state, for example, credit granted only for experience gained under a registered apprentice program. Unaware of this requirement, some applicants may work for a year or two without realizing that a formal apprenticeship agreement needs to be executed if their experience is to qualify them for licensure.

B. Completing the application form

Most application forms ask questions that appear on the surface to be reasonable. For example, a question about U. S. citizenship is found on most forms. One would assume that, since the question is asked, citizenship is a requirement for licensure. This is not always the case. Some application forms for occupations which do not require citizenship for licensure, nevertheless inquire about the applicants' citizenship status. It is not clear to the applicant that the same boards will accept applicants who have declared their intention of becoming citizens. One board indicated that it would accept a loyalty oath in lieu of citizenship; others have no citizenship requirements. Therefore the poorly educated applicant might assume, on the basis of the application form, that if he is not already a citizen it is a waste of time to file an application, especially since filing fees are not refundable.

Questions about education may also serve as a deterrent to the applicant with less than high school education. In some states the same form is used for a number of occupations. Educational levels ranging from eighth grade through graduate degrees may be shown. The applicant who does not know precisely what the minimum educational level is for the occupation for which he is seeking licensure may assume that he would not qualify.

C. Satisfying training and/or experience requirements

Evaluation of experience poses no problem for those individuals who have received their training in an institution licensed by or accredited by the agency which also does the licensing. However, those whose training took place in an out-of-state institution must have their education and/or experience evaluated by the licensing board or its staff. Determinations must be made as to whether courses taken in these out-of-state educational institutions are equivalent to courses offered by schools located within the state. If the determination is negative, the applicant generally has no alternative but to take the course in question at an in-state institution. Similarly, where there are discrepancies in the number of hours required for licensure, the applicant may find that he must return to school to satisfy the educational requirements of the state in which he seeks licensure. Frequently, there is no clue given as to what topics should be studied in fulfilling these requirements. In either case, the necessity of returning to school may deter mobility or may even persuade an individual to seek employment in a non-licensed occupation.

The evaluation of acceptable experience frequently involves elements of subjectivity. There was no opportunity during the pilot study to determine whether this posed a problem for any group. It was noted, for example, that certain local licensing boards had the right to waive the stated experience requirement if they were satisfied that the applicant had sufficiently broad experience to qualify. It would be interesting to ascertain how frequently this requirement was waived and for whom.

D. The cost of licensure

For the most part licensing fees appear to be nominal, although those agencies which must meet their costs of operation entirely out of income derived from fees and fines are under growing pressure to raise their fees. This raises an important philosophical question. If the purpose of licensing is to protect the public, why must the operation of a licensing board be self-sustaining?

The initial application fee (which frequently includes the first year's license fee) is only one part of the cost of licensing. In many occupations, the high fail rate means that an applicant may pay the full fee (or a smaller retake fee) several times before he passes. In the event that he does not qualify, the first year's license fee is not customarily returned, even though he was never licensed.

It should be noted that, because they have no other way of finding out what is on the examination, many applicants take the examination the first time with no expectation of passing. This results in a high fail rate and insures that many applicants will take the examination two or more times before passing. A high probability of having to retake an examination must be considered as a cost of becoming licensed--one that may well work a hardship on the applicant in a low-income group.

In a number of states, licensing examinations are held at only one location. It may, therefore, be necessary for the applicant to travel a considerable distance to the examination city and often spend one or more nights at a hotel. For example, an applicant for a plumbing license living in El Paso, Texas, would have to travel to Austin to be examined. The round trip air fare is $88.00. If he did not pass on the first try, he would have to return a second or even a third time. In certain occupations, such as dental hygiene and cosmetology, the examinee must bring her own model. The examinee must pay the travel costs, motel accommodations, and meals for both herself and her model.

Thus, while the application and licensing fees appear to be nominal, there are hidden costs which need to be taken into consideration. The actual cost may then turn out to be substantial...possibly as much as several hundred dollars. This could mean a real hardship for applicants, especially those who have been working for a minimum wage while attending school or serving an apprenticeship.

E. Examining procedures

1. Written Examination

Essay or multiple choice questions are generally prepared by members of the examining boards. With few exceptions, questions are not subjected to critical review, nor are they pretested prior to use in an examination. Only rarely does one find any indication that a licensing board is concerned with having its examinations item analyzed to determine difficulty level or discriminating power of items. Although a board may have several forms of a test available, these may not be of equal difficulty. It is generally assumed that if two tests have the same number of items and cover the same general body of knowledge, they are equal in difficulty. This, of course, is not the case.

While it was not possible to do more than examine a few tests in a cursory fashion, one gains the impression that these tests, at least, place a heavy emphasis on recall of facts and small details. The significant advances made in the field of educational measurement during the past half-century seem to have completely eluded those responsible for developing examinations for most of the non-professional occupations.

One also gains the impression that many of the examinations still in use were developed many years ago and have undergone little in the way of revision. It is reported that the aircraft mechanics examination is completely out-of-date. Mechanics trained in jet aircraft maintenance in Navy or Air Force schools are unable to qualify for FAA licenses because they are unfamiliar with much of the obsolete material found on that examination.

If examinations used for licensing are as backward as we suspect they are, they are almost certain to have a negative influence on the curricula of institutions which prepare people to enter licensed occupations. If institutions want their students to pass these examinations, they are forced to teach to the examination, no matter how trivial the information or obsolete the practices. The highly factual and often trivial material found on many examinations may give graduates of formal training programs a distinct advantage over applicants who are self-educated, or are seeking licensure on the basis of experience.

2. Performance Examinations

Many boards employ a work-sample type of examination. The tasks assigned are generally quite realistic, however, the rating procedure was almost never found to be standardized. Several of the boards visited had developed training programs for examiners as well as performance criteria for the tests. These boards required that examiners go through a careful training period before participating in the actual evaluation of candidate performance. However, such efforts to standardize and objectify performance ratings were the noteworthy exceptions. For the most part, performance evaluation appeared to be a highly subjective operation subject to every imaginable type of abuse.

While a number of boards indicated that applicants who failed the written examination were not allowed to take the practical examination or vice versa, this is not a common practice. Applicants were generally required to take both parts of the examination even though failure on an earlier part actually precluded any hope of obtaining licensure.

F. Establishing passing grades

No aspect of the testing-licensing procedure proved more mystifying to the investigators than the process of establishing passing grades. In many instances the basic licensing law, but more often regulations of the board, stipulated a minimum score of 70 or 75. This is generally interpreted as meaning that a candidate must get 70 or 75 percent of the questions on each examination correct in order to pass

In view of the lack of comparability of test forms (one form may be considerably more difficult than another) the arbitrary passing grade may result in substantial fluctuations in the proportion of applicants passing In situations where the same test is used over a period of time, and as information about test content "leaks" to applicants, the percent passing may increase. Equating of all test forms and the use of standard scores would serve to eliminate the inequity in the present system.

The wide variation in the percent passing licensing examinations given for different occupations, suggests that some boards are using the examination as a check for mastery and are prepared to license all applicants who can demonstrate their proficiency, while other boards are using tests as a device for exclusion. For example, the pass-rate in New York state for ophthalmic dispensers is only 20%; in Florida, it is 36%. Both states administer very difficult written examinations covering such topics as mathematics, physics, physiology, and optics. Applicants who have attended one of the three accredited training programs in the nation are probably qualified to take the examination and to pass after one or two trials. But the typical applicant, who has served an apprenticeship with a licensed ophthalmic dispenser, has virtually no chance of passing. His employer assumes no responsibility for preparing him for the theoretical part of the test, and there is generally no institution of higher education in his community where he can receive appropriate preparation in all of the theoretical subjects. The licensing examination thus serves to guarantee ophthalmic dispensers a source of cheap apprentice labor with little or no likelihood that the apprentices will be able to obtain licenses and go into business competitive with the established dispenser.

A similar situation prevails in some of the building crafts. A board consisting of established plumbers and plumbing contractors must determine whether or not to permit an applicant to enter into direct competition with those already in business. It is not surprising that in one community, only one of eight applicants for a Master Plumbers' license passed the examination.

G. Overcoming language barriers

Most licensing examinations are given in English. An applicant who might be highly qualified, but who could not read, write, or speak English would in most instances be unable to take the examinations required for licensure. In New York state for example, where there is a large Spanish speaking Puerto Rican population, all examinations are given in English. No translations are permitted. On the other hand, in Florida, two of the licensing boards have made provision for non-English speaking applicants. An applicant for a barber's license, who is willing to pay a $30-$35 translation fee, may arrange to take the written examination in almost any language. While Spanish is the language most frequently requested, translations have been made in Yiddish, Japanese, German, Dutch, and French. The Cosmetology Board permits the non-English speaking applicant to bring a translator into the examination room to facilitate the examining process. He may translate both written and oral questions for the applicant. The Plumbing Board in Texas provides a Spanish speaking examiner to assist Mexican-Americans during their examinations.

It was not possible to ascertain to what extent language poses a serious problem to individuals seeking licensure. If further study should indicate that it is an inhibiting factor, efforts should be made to persuade licensing boards to reexamine their present attitudes and to modify their requirements.

H. Identifying areas of weakness on examinations

Most boards indicate a willingness not only to re-score an applicant's test papers on request, but to discuss with him where he fell down and what he needs to do to improve his performance on a subsequent examination. It should be noted, however, that in order to avail himself of this "service" the applicant must usually go to the main office of the board. Thus, those applicants living in the vicinity of the board office, and those who can afford to make the trip, have an advantage over those who are unable to do so.

In one state, members of the Cosmetology Board are selected on a geographical basis. Applicants are told to see the board member for their district if they wish to discuss their written or performance examinations. Such efforts to accommodate applicants were relatively rare in the states visited.

J. Mobility of workers in sub-professional occupations

1. Interstate mobility

Licensing officials make a sharp distinction between licensing under reciprocity agreements and licensing by endorsement. Reciprocity agreements spell out the conditions under which two states will grant licenses to residents who migrate from one to the other. Those agreements state, in effect, "We'll treat your people the same way you treat our people." Two states with full reciprocity attach no restrictions on applicants from their respective states. Such applicants do not need to take examinations or meet experience requirements. A licensed cosmetologist who migrates from Alabama to Texas with 1,000 hours of training, will be licensed immediately. The same holds for the Texan migrating to Alabama. This is "full reciprocity."

On the other hand, although there is reciprocity between Arizona and Texas, Texans experience more difficulty in getting a license in Arizona than in Alabama. Hence, the licensing board in Texas places added restrictions on in-migrants from Arizona. An applicant licensed in Arizona seeking licensure in Texas must show 1,800 hours of training (800 hours more than is required for a Texas resident) plus five years of experience in the past seven years; otherwise he must take the Texas examination. Consequently, the applicant from Arizona gets no real benefit from the reciprocity agreement. In effect, he is being penalized by Texas because his home state imposes higher standard in the field of cosmetology than Texas does.

Licensing by endorsement means that an applicant will not be required to repeat an examination he has previously taken in another state provided he satisfies all other conditions for licensure

However, his score on the examination must meet the standard set for applicants in the state in which he is seeking licensure. If his score is below the cut-off, he must retake the examination. Obviously, licensure by endorsement can occur only when two or more states recognize or use a common examination. The only example of this practice encountered during the present study was in connection with the licensing of practical nurses. All states, except Texas are willing to endorse applicants who present scores over 350 (two states require over 400) on the State Board Testing Pool examination. Applicants from Texas who had not taken the SBTP examination, may not be licensed by endorsement. They must take the SBTP test, which is given only twice a year. In those states where licensing of practical nurses is mandatory, the applicant might have to wait for several months to take the examination unless provision is made for a temporary license.

A limited form of endorsement is practiced by dental hygienist licensing boards. Applicants who have passed the examination given by The National Board of Dental Examiners, are generally not required to take a written examination (California is the major exception). However, applicants are usually required to take the performance examination which is unique to the State, since the National Program does not include a performance examination.

2. Intrastate mobility

Licensing of certain skilled trades, at the city or county level may impose restrictions on intrastate mobility. An individual may be licensed in one or in several municipalities. However, should he wish to practice his trade in a municipality in which he is not licensed, he would have to satisfy the requirements, including written and performance tests, of that governmental unit. Reciprocity is practiced among some municipalities, but the extent of this practice is not known. A number of states have introduced statewide licensing to enable a qualified practitioner to work anywhere in the state without having to be licensed by each municipality. Such licensing would facilitate intrastate mobility and might also enhance interstate mobility. Practitioners would be able to apply for licensure from one agency, rather than from a number of separate local agencies. While state level licensing would not necessarily eliminate the use of licensing examinations for exclusionary purposes, there is reason to believe that testing at the state level would be somewhat less subject to abuse than testing at the municipal level.

Conclusion

Needless to say, the foregoing observations about the effects of licensing should be read with caution. While they are based on personal contact with officials in five states and several municipalities, we do not know at this point whether the agencies visited are typical of others across the nation. There is reason to believe that, since these are the most populous states in each of the regions, licensing may be more highly developed in them than in the smaller states. Comments about licensing at the municipal level should be regarded as highly tentative. Only a limited number of local licensing agencies were included in the present study. Nevertheless, information obtained from local officials suggests that no comprehensive study on licensing could hope to yield meaningful results unless it took into account licensing at the local level.

Although prudence has dictated that we stress the preliminary and tentative nature of our findings, it is our belief that an extension of this inquiry is likely to reinforce and further document many of the observations contained in this report. There is no question in our minds that licensing exerts a very real influence on the ability of individuals to enter certain skilled occupations. It is a "hidden force" in our society which influences the nation's supply of manpower. As such, it merits far more careful study than it has heretofore received. It is our hope that the present inquiry will pave the way for further research along the lines suggested in the next section.

VI PLANNING FUTURE STUDIES IN OCCUPATIONAL LICENSING

The present study has provided a glimpse into the complex world of occupational licensing by examining licensing practices in five states. It has revealed not only that states differ markedly in what occupations they license, but also in how they carry out their licensing activities. One of the most significant outcomes of the present study is an increased awareness of the role of licensing at the local level, especially with respect to such skilled trades as plumbing and electrical work.

Although the sample of states surveyed was small, and the sample of municipalities within these states so limited as to be totally inadequate for purposes of generalization, the preliminary findings strongly suggest that occupational licensing does indeed exert an influence on the ability of an individual to enter certain occupations and to move from one locality to another in the pursuit of his trade.

There is no doubt that occupational licensing merits further study in order to ascertain more accurately the impact that such licensing may have on the supply of skilled manpower. It would be desirable to know, for example, how prevalent licensing is for various occupations; the relative importance of state versus local licensing; the difficulty that people in general and minority group members in particular have in passing licensing examinations.

The question naturally arises as to what type of study (or studies) would be most likely to yield the information needed to gain a broader and deeper understanding of the licensing process, especially as it may influence the formulation of manpower policies. That such a study should extend beyond the original five pilot states goes without saying; but how extensive should such a study be? Is it necessary to obtain detailed information from all states? What about licensing at the municipal level? Since a 100% sample of municipalities is clearly impractical, what type of sampling would yield the most meaningful results? The approach to data collection also needs to be considered. What insights have been gained during the pilot study that may guide the planning of further research? It is with such questions that the following section of this report will be concerned.

Finally, we shall suggest a number of areas that merit closer examination during the next phase of this inquiry. It is hoped that such follow up studies will go beyond mere description of the licensing process. Such studies should seek to identify important problems which have action implications so that steps may be taken to reduce or remove such restrictions or inequities as presently exist in the licensing of certain occupations.

A. Recommendations Regarding a National Study

The procedures followed in the present study leave no doubt that relevant data pertaining to occupational licensing can be obtained from state licensing agencies through direct personal contact. In each of the states visited, the investigators were shown great courtesy and given full cooperation. In all likelihood, similar cooperation would be forthcoming should the study be extended to the other states.

Since considerable time and expense would be involved in a national field study, it seems reasonable to ask whether the relevant data could be obtained in some other way--perhaps by mail questionnaire. While no such questionnaire was used in the present study, efforts were made to obtain certain types of information through correspondence and telephone requests. The response to these requests provides little basis for optimism regarding the questionnaire approach. Because licensing officials are busy people, usually without adequate staff, they can honestly plead that they are too busy to respond to mail inquiries for data or to fill out lengthy questionnaires. Moreover, the data requested (such as the number of first-time applicants, repeaters, pass rates on written tests, pass rates on performance tests, etc.) are often simply not available or, if available, are not in the form requested. To provide these data may require the official to go back to minutes of meetings or to original record sheets. On a number of occasions, when the investigators visited a licensing agency, they were told that the data they wanted was unavailable. Only after rapport had been established would these same officials pull records from their files and tabulate the desired information in the presence of the investigator. It is unlikely that they would have gone to this trouble in responding to a letter or a mail questionnaire.

Up to this point we have been dealing exclusively with the feasibility of obtaining information from agencies which license occupations at the state level. What about the feasibility of obtaining such information from local licensing agencies? The problem is obviously greatly magnified once we move from the state to the municipal level. There are thousands of counties, cities, towns, and townships in the United States.

Gathering information about licensing practices in each of these local governmental units would be a monumental undertaking. Furthermore, on the basis of very limited experience with local licensing agencies, we would anticipate considerably more difficulty in obtaining information at this level than at the state level.

The responsibility for implementing local licensing ordinance is generally given to a building inspector, to one of his subordinates, or to some other official--such as the health officer. Since these officials must conduct licensing along with many other activities (such as reviewing building plans or actually inspecting buildings under construction), they are often much more casual about record keeping than are officials at the state level. During visits with local licensing officials, it was noted that they also tended to be somewhat defensive about their activities and less willing to make information available. More often than not, the desired data simply was not available in a usable form. In order to put it into the desired format, one would have to go back to application forms, test records, and minutes of Board meetings. With tact and persistence, an investigator might be able to obtain the information through personal contact. His chances of doing so by questionnaire are quite remote.

The investigators believe that the most effective understanding of the entire licensing phenomenon--the interaction of licensing at various levels on manpower problems--can be obtained through a continuation and extension of the in-depth studies that have been initiated during the Pilot Project. Depth extension of the Pilot Project is recommended, rather than an effort to achieve comprehensive national coverage, because (as has always been stated) the latter is likely to be incomplete and superficial.

We suggest that the following approach be given consideration:

1. Conduct an intensive study of licensing at the municipal level in five pilot states. The information gained through such a supplemental study would greatly enrich the data already in hand. It would provide additional material on which to base detailed case studies of occupational licensing in each of the Pilot Study states.

2. Select five to ten additional states so that when these are considered along with the pilot study states, the total sample will be a reasonably representative cross section of the nation.

Since the original states were the largest, the most populous, and the most highly industrialized in each region, the supplemental sample would in, all likelihood, consist of smaller states with a more rural flavor. Licensing at the local as well as at the state level would be investigated in each of the states.

These in-depth studies would provide a well-developed background against which to discuss problems and issues identified in the course of further research (see next section). The insights and other findings gained through such studies would further enhance the validity of any policy or action recommendations that may be forthcoming.

3 Conduct a questionnaire survey of (a) licensing in all states not covered by the field studies and (b) a stratified sample of municipalities (cities and counties) of varying size in different geographical regions.

The primary purpose of the survey would be to provide data on the extent to which various occupations are licensed at the national, state, or local level and to summarize the basic requirements for licensure. Since the latter are invariably found in the licensing law or in the regulations of the licensing agency, it may not even be necessary to use the questionnaire approach; one could take the pertinent information directly from the law. However, after abstracting such information, one might wish to send it to the licensing agency for verification. Agency officials would probably be especially responsive to this approach. Indeed, since they would not have to complete a lengthy questionnaire, they might even be willing to provide supplemental information not found in the law.

The questionnaire survey should be kept as brief as possible by limiting the number of topics and the amount of detail requested about these topics. Brevity would greatly increase the likelihood of obtaining a meaningful response.

The three pronged approach suggested above, is viewed as a way to gather dynamic information about how licensing agencies typically function and what problems an applicant is likely to encounter when he seeks licensure. The questionnaire survey would provide information about the national picture in rather general terms. The field studies would provide in-depth descriptions about licensing in a group of representative states. While the two types of information would complement one another, the major emphasis would be on qualitative rather than on quantitative data.

B. Recommendations Regarding Further Research

The significance of the Pilot Study lies not in the descriptive information elicited, but in the questions and issues raised by the data. A review of the section on the "Effects of Licensing", suggests the desirability of conducting intensive studies of specific aspects of licensing in order to develop information needed to guide policy development and/or action recommendations. The following are a few of these possible areas of inquiry:

1. Investigate the rationale underlying various licensing requirements (e.g., age, education, experience). Seek to determine whether these requirements are valid at the present time.

2. Ascertain how the "experience requirement" is satisfied. What role is played by vocational schools, apprentice programs, unions? Is it possible that controls over entry into apprenticeship programs by certain unions effectively deprive minority groups from gaining the requisite experience for licensure? Would relaxation of certain arbitrary requirements make it possible for members of disadvantaged groups to qualify for licensure more easily?

3. Investigate written and performance examinations used by licensing agencies. Do such examinations reflect current knowledge, technology, and practice in the field? What impact does the content of licensing examinations have on the instructional programs which prepare individuals for licensure?

4. Formulate recommendations for improving both written and performance examinations. Explore with licensing officials their attitudes toward changes in the examination procedure in order to develop action recommendations that have some chance of acceptance.

5. Explore the matter of communication between licensing agencies and applicants. Do some individuals or groups have greater access to information about licensing requirements? Are certain groups inhibited from seeking licensure because they do not understand the requirements or perceive them as more formidable (restrictive) than they actually are?

6. Seek information about the attitudes of certain disadvantaged groups toward licensing. Are these attitudes based on actual experience or on incomplete or incorrect information? To what extent have members of disadvantaged groups been able to obtain licensure in various occupations? In which of the critical occupations are all--or nearly all licensees Caucasian? What can be done to remedy this situation?

The exploration of these and other questions will take on added significance if carried out in states for which detailed information is available about all facets and levels of licensing.

APPENDIX

EDUCATIONAL TESTING SERVICE . PRINCETON, N. J. 08540

Area Code 609
921 - 9000
CABLE-EDUCTESTSVC
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Vocational-Technical
Education Projects

Letter Form #1

Sent to: Initial contacts in each state;
directors of licensing, secretaries
of state, attorneys general, etc.

Dear

The U.S. Department of Labor has asked the Educational Testing Service to undertake an exploratory study of occupational licensing in the United States, with special emphasis on non-professional occupations.

Despite the fact that every state has licensing in some form, relatively little is known nationally about the occupations covered, requirements for licensing, or the procedures used for determining competency. To learn at first hand what is going on in the licensing field--as a basis for planning a more definitive national study--we plan to visit five pilot states and to meet with the officials who are most directly involved in licensing activities. (Name of state) has been selected as one of the pilot states for the study.

I am enclosing a list of what we believe are the licensed non-professional occupations in your division. We would appreciate knowing about any occupations we may have overlooked (or those which should not have been included). Do the various examining boards which license these occupations submit reports of their activities? If so, would it be possible for me to obtain copies or to examine such reports in your office? We are especially interested in learning about the manner in which programs are administered, some statistical data about the number of candidates tested each year, the pass-fail rates, whether or not there is reciprocity with any other states for any of the occupations, the cost of the examinations to the candidates (and the licenses, if extra), etc. If there are data sheets or other publications which provide these types of information about the occupations licensed by your division, we would greatly appreciate having a chance to study them before meeting with you. In order to facilitate setting a mutually convenient time for our meeting, I will inform you well in advance of the dates we plan to visit (Name of state).

Needless to say, we shall greatly appreciate your cooperation in this project. It is our sincere hope that licensing programs in all parts of the United States will be strengthened as a result of our studies.

Sincerely,

EDUCATIONAL TESTING SERVICE **PRINCETON, N. J. 08540**

Area Code 609
921 - 9000
CABLE-EDUCTESTSVC
•
Vocational-Technical
Education Projects

Letter Form #2

Sent to: The executive secretaries of
the licensing agencies in the
states being studied.

Dear

The Educational Testing Service is studying the field of occupational licensing under a grant from the United States Department of Labor. We are making an exploratory study in five states to ascertain which occupations are licensed and how licensing laws are administered. Within the next few months I plan to visit (Name of state) and I hope that I may have an opportunity to talk with you about the operation of your board.

There is some information which would be helpful for me to review ahead of time. Would you kindly send me a copy of the licensing laws under which your board operates? I would also like to have the application forms that are filled out by candidates any other printed material which is sent to a candidate when he applies for licensing. For example, do you provide the candidates with descriptions of what the test covers, in order to assist him to prepare for it? If so, we would appreciate receiving copies. It would be very helpful if you could make available to us a copy of your most recent annual report telling how many candidates were tested, how many licenses were issued, etc. In addition, we would be interested in knowing about your examining procedure if such information is available.

I realize that I have requested a good deal of information, some of which may not be available for distribution. However, any of these types of information that you can send me prior to my visit will be greatly appreciated and useful to me for preliminary preparation. This should save time and help to make our meeting mutually productive.

Sincerely,

EDUCATIONAL TESTING SERVICE PRINCETON, N. J. 08540

Area Code 609
921 - 9000
CABLE-EDUCTESTSVC
•
Vocational-Technical
Education Projects

Letter Form #3

Sent to: All persons who assisted by sending information. In cases where the form did not appear appropriate, individual letters of thanks were sent.

Dear

This is to acknowledge receipt of the materials you have sent in response to my request.

Thank you for your prompt and informative reply. Your assistance is greatly appreciated. I hope to have an opportunity to visit with you when I am in (Name of state).

Sincerely,

INTERVIEW GUIDE

I. ADMINISTRATIVE STRUCTURE

A. Role of State Agency

1. In setting policy
2. In administering the law within policy framework set by Boards

B. Role of Licensing Boards

1. Is it advisory or does it have the power of decision?
2. Composition of Board
   - Who appoints?
   - Criteria for selection?
   - Terms?
   - Compensation?
3. Frequency of meetings?
4. Does Board hace its own secretary and paid staff?
5. Does Board get actively involved in making decisions about individual applicants or is this left to its staff or to state people?

C. Interaction Between State Officials and Board

D. Reports

1. Do the various Boards or State Agencies issue reports?
   - What do these cover?
   - Available?
2. Where can we get information on
   - Candidate volume:
     a) new applicants
     b) repeaters
   - Pass-Fail rate:
     a) after initial testing
     b) after subsequent attempts
   - Data on minority groups
   - Total number of licensed individuals
   - Total number actually practicing

II. LICENSING PROCEDURE

A. Application

- Form?
- Fees?

B. Requirements

1. Educational level?
2. Training requirements?
3. Health?
4. Citizenship?
5. Literacy in English?
6. Character?
7. Others?

C. Examination

1. Types of tests given?
   - Written?
   - Performance?
   - Other?

   (Get Description and time required)
2. Preparation of tests
   - Who determines specifications
   - Are these realistic and closely related to the demands of the job?
   - Who prepares the questions?
   - What are the qualifications of test makers?
   - Are people from training institutions consulted regarding the examining procedures?
   - Are questions reviewed?
   - By whom?
   - Are items pretested?
   - Are tests systematically analyzed for:
     item difficulty?
     discrimination?
     reliability?
   - How many forms are currently available?
   - How frequently are tests revised?
   - When was the test last revised?
   - What is the oldest form still in use?
   - How is the security of tests maintained?
   - Have there been any validity studies?
     Is the Report available?
   - Is your Board in contact with other State Boards regarding:
     cooperation?
     comparison?
3. Administration and scoring
   - Does the candidate get any information about the test beforehand?
   - Who administers the tests?
   - How often are they given?
   - Where are they given?
   - How is the test performance evaluated?
   - What steps are taken to insure accuracy of scoring of written tests?
   - What is done to insure reliability and objectivity of rating on performance test?
   - How is the passing score determined?
   - Is the candidate informed of his scores?
   - Can he obtain the information on request?
   - Who else has access to scores?
   - Is an interpretative manual provided?
4. Retesting and appeals
   - If candidate fails, how long before he can take the test again?
   - Is candidate advised regarding specific areas of weakness on written and practical examination?
   - Is this set by law?
   - Or is it an administrative decision?
   - How often may he repeat?

-Does applicant have to refile and pay full fee to be retested?
-How often does the state agency get complaints that the test is unfair or discriminatory, especially from minority groups?
-Is there a policy statement regarding how such complaints are to be handled?
-Does applicant have any route of appeal if he feels tests are unfair or discriminatory?
-Who makes the ultimate decision?
-Have decisions been appealed in the courts?
-Outcome
-Has this influenced policy or law?

D. Other Considerations in Granting License

1. How are various factors weighted?
2. What is the relative weight of the written test and the performance test?

III. RECIPROCITY

A. Does your state have a policy regarding reciprocity?

1. Are there states with which you have full reciprocity agreements? (List details)

B. Practical Problems

1. How long does it take an in-migrant to get licensure via the reciprocity route?
   -Cost?
2. How many out-of-staters seek licensing through reciprocity?
   -How many granted?
3. In practice, do most out-of-staters elect to go through regular licensing procedure?
   -Do these applicants have difficulty passing your test?
4. Is there any provision for a temporary license while awaiting examination or pending review of credentials?

C. Attitudes Toward Reciprocity

1. Would you like to see more reciprocity practiced?
2. What are the chief barriers?
3. How could these be overcome?
4. Do you feel that there is anything unique about the practice of reciprocity in your state that makes it necessary to have a special test?

IV. GENERAL TOPICS

A. When was the law under which you operate last revised?

B. What are the major problems you face in administering the licensing law?

C. What changes would you like to see made in the law or in the administrative pattern?

D. Do you feel that examining procedures can be improved?

   1. In what ways?

E. Is there any pressure from schools or any other groups to change licensing requirements, to make them more or less stringent? Explain

F. Have you had any indication that there are people in your state who may be qualified to practice, but who do not present themselves for evaluation?

G. Do you feel that the fact that an occupation is licensed deters people from entering that occupation? Explain

H. To what extent do you feel that licensing inhibits interstate mobility of people trained in a licensed occupation?

I. Are any of the occupations listed on this card licensed by the state or by municipalities? (The list shown was the list of occupations in which there were manpower shortages that the Department of Labor provided--see next page.)

J. Do municipalities license in any of the fields in which the state does licensing?

   1. Conflicts?

K. Any other aspects of licensing we should investigate?

NON-PROFESSIONAL OCCUPATIONS IN WHICH MANPOWER SHORTAGES EXIST

Aircraft mechanics
Auto mechanics (motor vehicle servicemen)
Air conditioning and refrigerator maintenance and repair servicemen
Draftsmen
Electricians
Elevator maintenance men or repairmen
Electronics technicians and repairmen
Plumbers and pipe fitters
Laundry machine operators - dry cleaners
Ophthalmic technicians
Psychiatric attendants
Psychologist technicians
Radio and television maintenance and repair servicemen
Sanitarians
Opticians
Dental hygienists
Medical laboratory assistants
Practical nurses

ADDENDUM TO: The Licensing of Aircraft Mechanics (Chapter IV)

Continuing efforts have been made to secure information about the number of airframe and power plant mechanics examined each year by the Federal Aviation Administration, the pass-fail rates on the various examinations, the cost of the examinations to the candidate, and the costs associated with maintaining certification.

The investigators were able to obtain some data on certification volume by telephoning FAA headquarters in Washington, D. C. The "total original certificates and added ratings" volume reached a peak of 6,983 in 1960, after which it slumped to 4,768 in 1962. Since then there was a steady increase to a total volume of 8,854 certificates and added ratings in 1967. In each year, approximately two-thirds of the total volume consists of original certificates issued, with the remaining one-third consisting of additional ratings being issued to candidates who are already certificated in another category. These volume figures, though obtained over the telephone, are from an FAA Statistical Handbook and can be considered to be official.

Unofficial figures (also obtained over the telephone) on examination volume depict a steady growth in the years 1962-1967 from 8,587 to 18,676 airframe examinations and from 8,392 to 21,966 power plant examinations. Thus, a total 1962 examination volume of less than 17,000 grew to almost 40,000 in 1967. This increase could have been due to several factors. The most apparent cause of the increase would be that greater numbers of candidates were being examined. However, the increase is in "number of examinations administered" and could reflect an increasing fail rate on the examinations. Pass-fail rates were not available, however some candidates have returned 15-20 times in order to finally become certificated. A candidate would be considered to have failed the entire examination if he failed only one section--though he need retake only the section he failed.

It is difficult to get a clear picture of the process of licensing airframe and power plant mechanics by the FAA. Responsibility for various aspects of the licensing process is divided between the Examination Center at Oklahoma City, FAA Headquarters at Washington, and the FAA District Offices.

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